**SKF Static Motor Analyzer Baker AWA-IV**

**Quick Start Card**

**Ensure safe operation**

**WARNING**

Be sure to comply with all safety procedures prescribed by your organization, industry, and governing standards. Failure to heed safety precautions can result in injury or death from severe electrical shock.

Refer to the Baker AWA-IV User Manual for complete safety information.

Additionally, you should acquaint yourself with the user interface elements so you can more easily navigate the software during testing.

Ensure that all power and cable connections are properly made before and during testing.

**Recommended testing sequence**

Perform a sequence of progressively more rigorous tests. If a test fails, troubleshoot, diagnose, and repair the problem before continuing with the next test in the sequence. The following tests will run automatically in sequence:

**Temperature entry**—If temperature is enabled for temperature/resistance tests, the Temperature/Resistance dialog will appear so the temperature reading can be entered. Temperature is collected using a third-party device.

**Resistance**—If the readings pass per the requirements of the Test ID, the Temperature/Resistance dialog will close. If low-voltage leads were used, a dialog will appear instructing you to switch to the high-voltage leads.

**MegOhm**—This test starts by ramping up test leads to the pre-programmed voltage. This voltage will be held for 60 seconds during which the analyzer watches for overcurrent conditions and micro-arc or insulation resistance values below the minimum megohm setting. If a failure is detected, all testing will stop, and the leads will be discharged and grounded. You will be given the choice to repeat the test, stop all testing, or continue to the next test.

**PI/DA**—If the Test ID was set up for a Dielectric Absorption (DA) test, the duration of the test will be three minutes (180 seconds). The PI test duration is 10 minutes (600 seconds). At end of the PI/DA test, if no failures occur the PI/DA dialog will close, and the analyzer will continue with the next test.

**DC HiPot/Step Voltage**—During this test, the voltage will be ramped to the target test level. If the analyzer detects a low megohm reading or an overcurrent condition, testing will immediately stop, and the leads will be discharged and grounded. You will be given the choice to repeat the test, stop all testing, or continue to the next test. If no failures are found during the DC HiPot/Step Voltage test, the analyzer will continue to the next test.

**Surge**—The Surge test screen will be displayed and the voltage will be slowly increased on lead 1 to the voltage specified in the Test ID. If no pulse-to-pulse EAR failures are detected, lead 2 and lead 3 will be tested.

At the end of the sequence, the test data will automatically be saved to the database and the main test screen will re-appear.

Tests can also be run individually from the Test tabs, or they can be run manually using the controls on the tester’s front panel.

**Basic testing process**

**Creating or opening a database**

1. Start the Baker AWA-IV application by clicking on the icon on the tester screen or the MS Windows Start button.
2. Use the dialog box to create a new database or open an existing one.
3. Click OK to continue.

**Selecting a motor to test**

The left side of the screen is used to locate motors stored in the opened database. Three methods can be used:

* The Explore tab uses a tree view to show the motor location.
* The Motor ID tab provides an alphabetical list of Motor IDs. Typing the first few characters filters the list of IDs to facilitate location.
* The Route tab provides a predefined list of motors.

Locate the motor needed using any of these tabs, then click on the motor to select it for testing. (The process for creating a new motor is on the next page.)

**Running an automatic test**

After selecting a Motor ID, a fully automatic test series can be run. Automatic tests analyze the motor in the recommended sequence.

1. Click on the Tests tab to get to the main testing screen.
2. Click on the Config/View parameters buttons to confirm test parameters are properly set for the motor you will be testing.
3. To start the test, click on the red Run Auto Test button and follow the directions provided. The software will automatically run all selected (On) tests.
4. The Safe To Turn On dialog appears when a high-voltage test is selected. Typically, it instructs you to verify that the correct set of leads have been properly connected; however, the content of the dialog can vary depending on your tester configuration.
5. Follow the instructions in the dialog to continue the testing process. As noted earlier, when all tests have been run, the test data will automatically be saved to the database and the main test screen will re-appear.

**NOTE**

For additional details on test leads and connections, running tests, reviewing test results, printing reports, and more refer to the Baker AWA-IV Quick reference guide or the Baker AWA-IV User manual.
Creating a new motor ID

1) Click on the Data tab to create and store motor information. Each motor will be listed in the Explore tab Motor Tree on the left side of the screen. The Motor Tree provides a complete listing of all motors stored in a particular database.

2) To add a motor to an existing or new database, click on the Add button.

3) Type the Motor ID, Location, Building, and nameplate information in the appropriate fields.

4) Click on the Clear button to remove all information currently entered in the fields. Best practice is to add all information pertinent to the motor to facilitate testing. This information can be useful during the testing and troubleshooting processes.

5) Click on the Save button to add the motor information to the database.

6) The Select Test ID dialog box will appear so you can assign the appropriate Test ID to the motor. Test IDs contain the testing parameters (for example, tests performed, voltages, and pass/fail criteria) along with a basic motor description (for example, 480Vw/Rotor>100HP StepV).

7) Click OK after selecting the proper Test ID for your motor. The new motor ID will appear in the motor tree on the left side of screen.

NOTE: You can also create new Test IDs when needed. The process for creating a new Test ID is explained in detail in the Baker AWA-IV Quick reference guide or the Baker AWA-IV User manual along with details for determining the proper Test ID to select.

Selecting tests to perform

1) Click on the Tests tab then select the desired tests to be performed via the On/Off buttons.

2) To enter the temperature value and set up resistance tests, click on either the Manual or 3 Lead/High V (Config/View) button.

3) The Temperature/Resistance Test screen appears so you can provide the temperature and resistance information needed for your test.

4) You can use the default values provided in the Tests tab setup screens, or you can adjust parameters based on IEEE, EPRI, EASA, IEC, or company standards. When you have completed your set up, close each screen.

5) Enter into the DC Tests setup screen by clicking on any of the voltage buttons (Config/View) next to the DC tests listed.

Setting up a Step-Voltage test

1) From the DC test setup screen, click on the HiPot/StepVoltage drop-down list then click on Step Voltage. This will open the Config Wizard.

2) Set each value to a desired level and click Next.

3) Add or delete steps within the wizard as needed, then click Finish to save the set up.

4) When you have completed your set up, close the wizard to return to the DC Tests setup screen.

5) In turn, close the DC Tests setup screen when you are satisfied that the proper parameters have been selected.

Setting up a Surge test

1) Click on the voltage button (Config/View) to open the setup screen.

2) Use the default parameters provided, or enter parameters based on IEEE, EPRI, EASA, IEC, or company standards for the voltage class of the motor.

3) Set Pass/Fail tolerances.

4) You can also check the ZS Override button if you want the tester to automatically start at the Surge Voltage level, removing the need to ramp up and allowing the tester to reach the target voltage faster. This feature is available for semi-automatic or manual testing only.

WARNING: When using ZS Override, test voltage will not start at zero. Because the tester will immediately apply higher test voltages to the motor, take all precautions to avoid injury or death from severe electrical shock.

5) Close the Surge setup screen when you are satisfied that the proper parameters have been selected.

6) You are now ready to run automatic, semi-automatic, or manual testing as preferred.

NOTE: When possible, remove or secure the rotor before testing to ensure accurate measurement.