

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 aquaint 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-arcs 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 reappear.

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 clikcing 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 faciliate location.
- The Route tab provides a predefined lists 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.

Baker AWA-IV - [Example.mdb] File View Database Window Tools Help Air Circ Fan 123 Explore Motor ID Route Data Tests Trending North Platte 🚃 🗆 Edit Test ID 🗀 Enable Calibration Test ID: Barrier Dam - Motors Air Circ Fan 123 CoolFan332-2 Temperature/Besistance Te RRC Test New Mot Unit 23 L. Unit 45A 3 Lead/Low V R<u>e</u>sistance South Branch DC Tests - Willow Ridge Meg0hm 5000 Volts DA DI 5000 Volts (

Step-Voltage

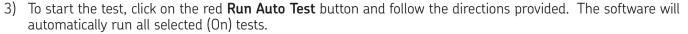
<u>S</u>urge

14800 Volts

Surge Test

Open an existing database

:\AWAData40\Example.mdb



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.

Baker AWA-IV

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.



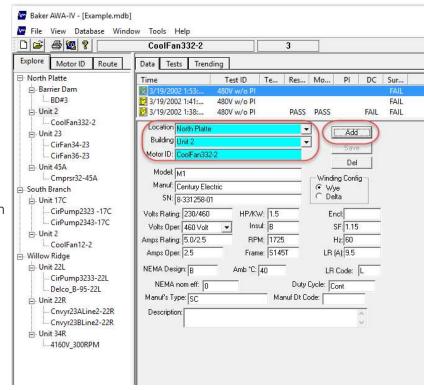
NOTE

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*.

14800 Volts Configure/View DC Test parameters.

Creating a new motor ID

- 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.
- 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.

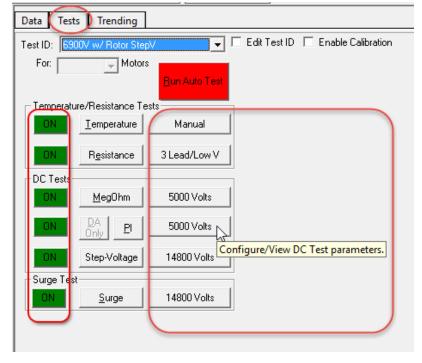


NOTE

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.

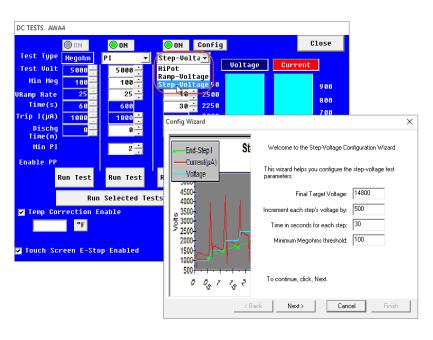
Selecting tests to perform

- 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.



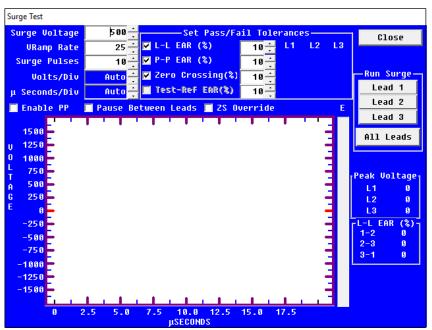
Setting up a Step-Voltage test

- 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.
- 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.



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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 precuations 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.

