

# AWA 2.2

## integrated testing Capabilities

The AWA 2.2 integrates a wide range of electrical tests with the hallmark quality of a Baker. This instrument supports all major electric tests in a single field portable unit including surge, polarization index, DC HiPot, megohm and winding resistance. This instrument complies to IEEE recommendations.

## continuous Innovation

With the AWA 2.2, Baker Instrument Company continues to pioneer new breakthroughs that demonstrate our ongoing commitment to quality, reliability, and competitive advantage. The AWA 2.2 is the result of over 40 years of designing and building insulation test instruments. It is the only tester available today that provides

automatic pre-programmed tests and manual controlled tests in the same instrument.

## The Power of Automation



Time	Test ID	Temp	Re...	Mohm	PI	HiPot	Stg
03/19/02 15:53:02	480V w/o PI						FAIL
03/19/02 15:41:07	480V w/o PI						FAIL
03/19/02 15:38:20	480V w/o PI		FR05	FR05			FAIL

Test Date	Temp	Moist	Wdg
No Test	No Test	No Test	No Test

Winding To	Moist Status
No Test	No Test

Ball 1	Ball 2	Ball 3
2.729	2.718	2.708

Coil 1	Coil 2	Coil 3
1.807	1.810	1.800

Delta R Me...	Wdg Ratio
0.800	0.970

Moist-Hols...	Moist-Curr...	Moist-Rat...	Moist-Rd 4...
510	0.4	1275	

PI Status	PE-Inst (F)	DC Ratio	PI Ratio
No Test	No Test	No Test	No Test

HiPot Status
No Test

The AWA 2.2 has been designed around PC104 technology that allows the instrument to work efficiently without fans to cool the processor. This computer performs all requested tests, stores the results, and continuously monitors voltage levels while testing. If the computer detects a weakness in the insulation, the test is interrupted, the operator is alerted, and all test parameters at the time of the interruption are reported. The AWA 2.2 performs this operation in microseconds with a higher degree of precision and safety than can be achieved through manual testing.

## Automatic or Manual

The AWA 2.2 gives you the option of automatic or manual testing. In manual mode, the system allows operator control over tests, voltage levels and data collection.

## Pre-Programmed Operation

The AWA 2.2 is the only high-voltage tester that can be pre-programmed in the office and implemented in the field. Pre-build work orders define which motors to test, the order of execution, and parameters for each test including voltages, duration and pass-fail limits. Operators can then conduct tests in the field simply by connecting to the pre-programmed motor, ensuring a higher degree of reliability in testing procedures. This allows repeatable maintenance testing, which is vital to a successful PM program.



## Advanced Data Collection

When testing is complete, results can be saved as part of each motor's permanent test record. This kind of documentation is critical to a successful reliability program. With the AWA 2.2, test results are collected, stored, recalled and managed using standard MS Access relational database format. Reports can be generated for trending, insurance records, or guarantee and warranty requirements for customers through the AWA software or MS Word file formats. This open database structure make it easy to transfer information to maintenance management software or other database tools.

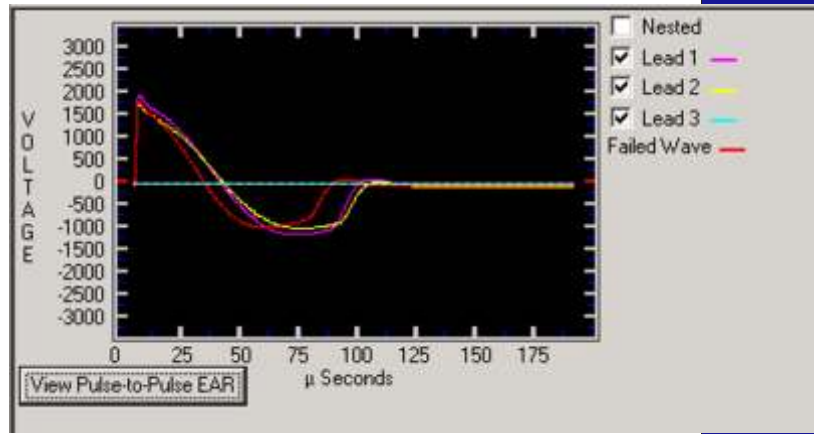


# Turn-to-Turn Testing

The Baker AWA 2.2 incorporates the most advanced inter-turn capabilities ever offered in a field portable instrument. Computer control and waveform monitoring are dramatic enhancements of the manually controlled instruments previously available.

As with the DC HiPot test, the AWA 2.2 begins surge generation at low voltage. Each pulse applied to the winding is digitized and the resultant waveform is compared to previous waveforms to detect any sign of turn-to-turn shorting. Comparison is done by the patented Pulse to Pulse Error Area Ratio (PP-EAR) technique. This method is sensitive to less than a 1% variance between coils.

In addition, shorts among windings in parallel can be located, something that was never possibly before by visually comparing waveforms. With the AWA 2.2, fewer pulses are applied to the winding, reducing the power required to perform the surge test. Since each and every pulse is analyzed, it becomes the new reference waveform as test voltage is increased up to the specific withstand level. If no turn-to-turn shorting is detected, the final pulse waveform is stored as the reference waveform for all subsequent future tests. You will know exactly what the waveform should look like next year or five years from now. As with previous versions of the AWA, this instrument is IEEE 522 compliant.



## Features

- Universal Power Supply: 85 VAC-265 VAC, no cooling fan needed.
- Surge test to 2150V., .1μF capacitor (IEEE522 Compliant).
- Meg-ohm, DA, PI, Stepped DC and DC HiPot tests to 2150V, with 4 ranges of measurement 100/10/1.1 μA, 1000/100/10/1 μA overcurrent trip levels. Maximum reading of Meg-Ohm = 50,000M . DC power supply is regulated to .01%. (IEEE Compliant).
- Kelvin resistance bridge-relay matrix, with 5 amps maximum applied DC current source. Kelvin relay-matrix is comprised of a separate, removable set of two kelvin clips. Unit high voltage leads retain ability to perform test sequence; however, for resistances, the Kelvin test leads are used (IEEE Compliant).
- MS Windows operating system with Pentium class computer.
- AWA Software generates MS Word Reports.
- Removable Keyboard and mouse (not required for testing).
- ELO touch screen for ease of operation during field testing.
- USB for Data Transfer.
- RJ45 ethernet access plug for Cat5 ethernet connection.
- Shock mounted internal chassis, with hard drive shock mounting.
- External floppy disk drive and CDROM drive, both with USB interface.
- PC104 system board with 100% optically isolated signal/readout and controls for high voltage circuitry.
- High resolution color LCD with high color display capacity.
- Improved Testing Capabilities:
  - Continuous ramped HiPot
  - Enhanced Reference Surge Waveform
  - Improved PI/DA, DC HiPot, Resistance Tests
  - Higher sensitivity Surge Test

## Specifications

<b>Surge Test</b>	
Output Voltage	0-2150 Volts
Max Output Current	200 amps, instantaneous
Pulse Energy	.2 joules
Storage Capacitance	.1μF
Sweep Range	2.5-2000 μs/Div
Volts Division	500/1000/2000/3000
Repetition Rate	5Hz
Voltage Measurement & Accuracy	± 12%

<b>DC High Potential (HiPot) Test</b>	
Output Voltage	0-2150 Volts
Max Output Current	1000 μA
Current Resolution	.1, 1 10, 100 μA/Div
Full Scale Voltage & Current Measurement & Accuracy	± 5%
Meg-Ohm Accuracy	± 10%
Max meg-Ohm Reading	50,000 M

Resistance Measurements .001 - 100

### Physical Characteristics

Weight	18 lbs
Dimensions (WxHxD)	15" x 8" x 8"
Power Requirements	85-264 VAC 50/50 Hz @ 500 Watts or more



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