

ADX

Automated Static Motor Analyzer

Megger[®]
Baker Instruments



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INTRODUCTION

The Megger Baker ADX is an innovative and transformational leap forward for motor testing in today's demanding workplaces. Developed using Linux on an Android operating system, the ADX software is easily updated via a Lan or Wi-Fi connection. The large 10.4-inch touchscreen is tough and daylight viewable.

A fundamental requirement of hard-working test equipment is having the optimal test lead set. The ADX has IEC61010 safety compliant, combined high voltage / low voltage detachable Kelvin test leads, rated at 16 kV with a large jaw opening. The leads are available individually or in sets, so damaged leads can be replaced in the field without sending the equipment away—saving time and money.

An internal battery backup allows the ADX to be moved between assets without having to shut down and reboot for each new location.

WIDE RANGE OF MODELS AND FEATURES

The ADX family includes models designed to perform tests at voltages up to 15 kV. The five main options include 4 kV, 6 kV, 12 kV, 15 kV, and 15 kV-A (Armature). Couple the ADX with a PPX to increase test voltages up to 40 kV for testing high voltage assets.

Available ADX tests include:

- Winding Resistance
- Inductance
- Capacitance
- Insulation Resistance (IR)
- Dielectric Absorption (DA)
- Polarization Index (PI)
- DC HiPot (standard)
- DC HiPot (step-voltage)
- DC HiPot (continuous ramped)
- Surge analysis with EAR+™
- Partial Discharge on Surge



ADX FEATURES

- Asset-centric approach promotes turnkey testing for operators
- * Separating Asset from Installation provides greater insight into asset service needs and issues
- PowerDB Dashboard secure cloud-based analysis software
- Choice of Manual, Automatic, or Sequence testing
- Screen-level context sensitive help
- Adaptable search capability
- Asset management tools
- Configurable Route-based testing
- Pulse-to-Pulse and Line-to-Line Error Area Ratio analysis
- Import existing databases from AWA and DX
- Android operating system
- Wireless networking capability for printing reports and updating software
- HDMI port for duplicating screens
- W-Fi enabled

ADX HARDWARE



Detachable IEC61010-compliant combined HV / LV Kelvin test leads



Back Panel connections for Ethernet, Power Pack Interface, HDMI, Serial port, Remote warning lights, E-Stop, and Footswitch

DATA STORAGE, ANALYSIS, REPORT GENERATION, AND MANAGEMENT

All test results are saved and stored locally on the ADX, and are automatically synchronized with the cloud-based application PowerDB Dashboard for users with internet connection.

Test results can be analyzed through Dashboard. Comparing current and historical data can reveal downward trends and other issues, indicating when action should be taken to service assets and avoid unplanned downtime.

The built-in Report Generator provides on-board test result viewing that can be sent directly to a printer. Reports can be printed from the ADX wirelessly to a networked printer, or directly via a USB-connected printer. Data can be accessed securely through PowerDB Dashboard to view and download reports in either MS Word or PDF. Data can also be exported in other formats such as CSV.

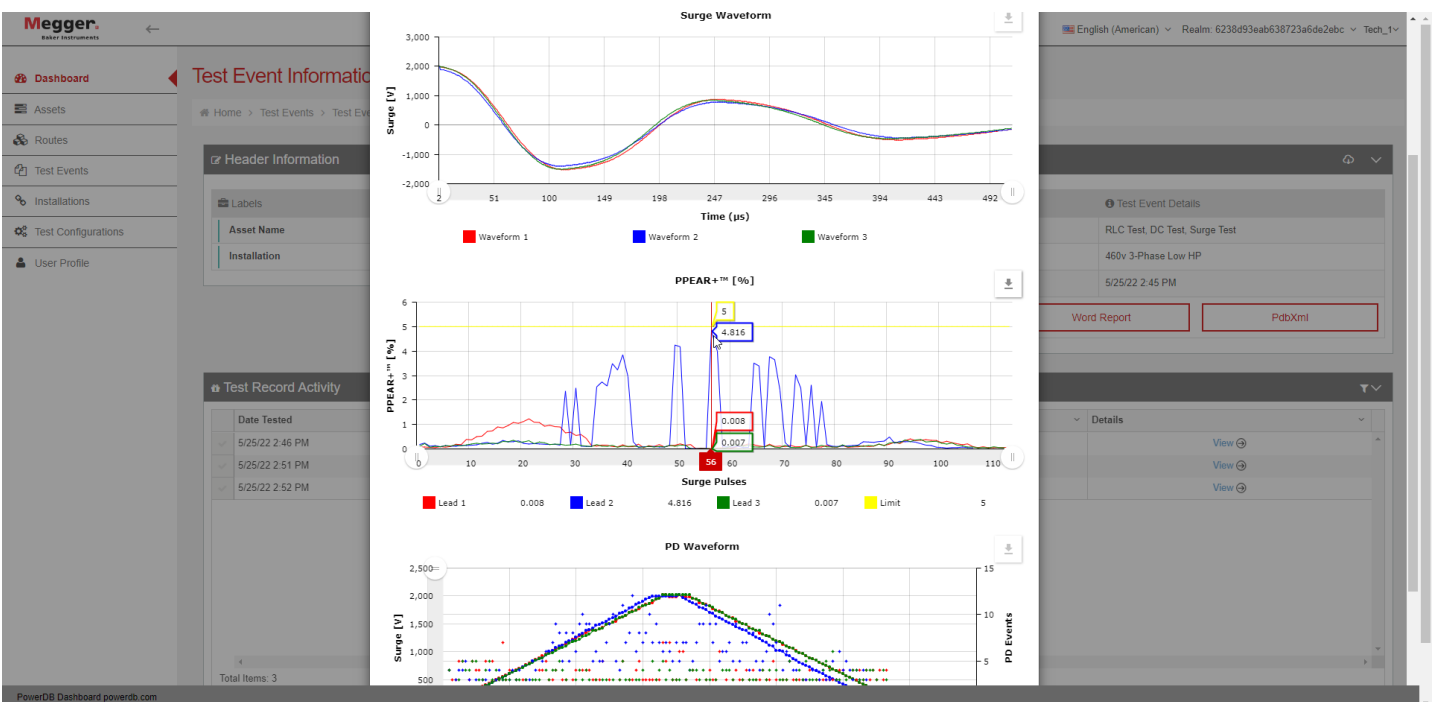
The ADX can function as an off-line system, utilizing PowerDB Print Engine software to create, edit, and print reports on a local computer. Data is transferred via ADX export to a USB drive, uploaded to a local computer, and edited as an MS Word document.

ADX software allows users to easily create, view, and edit assets, test configurations, installations, and routes. The asset-centric approach provides administrators and management with all the tools needed to set up a turnkey environment, simplifying the asset testing process for operators.

Asset configuration can be done directly on the ADX or remotely via PowerDB Dashboard. The integrated system allows access through any internet-connected device to create and edit assets, test configurations, installations, and routes. No matter where the changes are made, they are automatically synchronized between the ADX and PowerDB Dashboard via internet connection.

EASE OF USE

- Configure the Megger Baker ADX to fit your testing requirements
- Create an asset and assign the type of test configuration that meet your needs
- Set up users with or without passwords
- Assign test capabilities to each user



DC MOTOR TESTING

DC motor testing is quick and accurate using the ADX. The ADX15A has built-in Armature testing capability, so no need to reach for an accessory. Interpole and field coil test results are specially labeled. Bar-to-bar tests can be performed on a DC armature to thoroughly analyze for shorts, open circuits, weak turn-to-turn insulation, imbalances in the coils, and damaged or misconnected commutator risers and equalizers.

HIGH VOLTAGE MOTOR TESTING

Coupling the ADX with a Megger Baker PPX 30, 30A, or 40 increases test voltage capability up to 40 kV—allowing you to test higher voltage motors, generators, and coils. Power packs perform Surge and DC HiPot tests when used with the ADX.

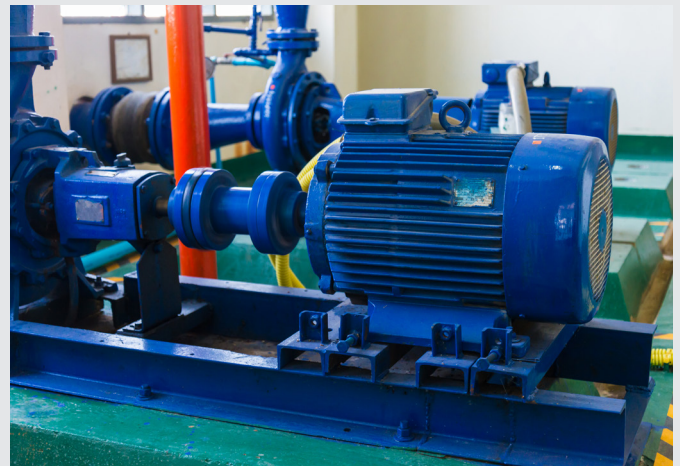
PARTIAL DISCHARGE

Partial Discharge (PD) is a known phenomenon that occurs in motors with weak or contaminated insulation, or voids within the insulation. During surge testing, the ADX can detect PD between the turns of a winding or coil. The option can be selected and adjusted within the test configuration.

A PD event is a detected voltage level that exceeds a specified threshold. PD can be a precursor to more severe damage within your winding. When PD is detected during a surge test, events are recorded to provide you with insight into your asset's insulation quality.

PD detection methods use IEC 61934 to provide the standard for partial discharge severity. The methods use the following four key measurements:

- **Partial Discharge Inception Voltage (PDIV)**
- **Repetitive Partial Discharge Inception Voltage (RPDIV)**
- **Repetitive Partial Discharge Extinction Voltage (RPDEV)**
- **Partial Discharge Extinction Voltage (PDEV)**



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LOW IMPEDANCE TESTING

The ADX analyzer provides a comprehensive array of tests that can expose a wide range of issues with motors. Whether testing a set of coils or a three-phase synchronous stator, low impedance testing is critical to assess circuit imbalance conditions.

The ADX provides the most accurate impedance measurements of any of its predecessors allowing for the detection of asymmetrical winding conditions, high resistance connections, and deviations from quality standards.

Utilizing Kelvin lead technology, the combined high/low voltage test leads seamlessly test all low voltage circuit parameters and eliminate the need to change leads when transitioning to high voltage testing.

SERVICE

Megger Baker provides world class global technical support for its motor test and monitoring equipment. You can always call our technical support team at no charge at +1 800-752-8272 (in the US) or +1 970-282-1200 from outside the USA, or send an email to baker.tech-support@megger.com.

From routine calibration to repairs and upgrades for static or dynamic analyzers, our experienced technicians will return your equipment in top condition with fast turnaround and courteous service. Contact our motor test and monitoring product service at +1 970-282-6079, or email our service team at baker.service@megger.com.

MAXIMIZE THE ADX WITH TRAINING

Want to get the most out of your investment in your electric motor analyzer? Megger Baker provides introductory and advanced training for static and dynamic motor testing and monitoring methods at its training center in Fort Collins, Colorado, USA.

Available training classes

Class	Location
Static Level I	Fort Collins, at your site, on-line
Static Level II	Fort Collins
ADX training	Fort Collins, at your site, on-line
Dynamic Level I	Fort Collins, at your site, on-line
Dynamic Level II	Fort Collins

For more information or to make reservations call +1 970-286-9503, or send an email to baker.training@megger.com.

You can also check out our training schedule at www.megger.com/baker.

ADX SPECIFICATIONS

Physical specifications

Model	Weight	Size (W x D x H)
ADX4, 6, 12, 15	46.3 lbs. (21 kg)	18 x 23 x 8.5 in. (457 x 584 x 216 mm)
ADX15A	50.7 lbs (23 kg)	18 x 23 x 8.5 in. (457 x 584 x 216 mm)

Languages supported

Language	Dialects
English	
French	Europe
Spanish	Europe (Castilian) and Latin America
Portuguese	Brazil
German	
Czech	
Russian	
Chinese	Traditional and Simplified

System specifications

Parameter	Value
Internal memory	RAM 2GB DDR3
Internal storage	8GB MMC and 480GB SSD Drive
Processor speed	1.0 Ghz (Quad core)
User interface	Capacitive touch screen, mouse, keyboard, stylus
Platform	Android
Display	10.4" touch screen
Resolution	XGA 1024 x 768
Wi-Fi	802.11 a/b/g/n Dual Band 2.4 / 5 GHz
Ethernet	Gigabit Ethernet 10/100/1000 Mbps
USB	USB 2.0
Battery Backup	4+ hours standby time

User interface and documentation

Instrument rating summary

Parameter	Value
Internal and operating environment	Pollution degree 2
Operating altitude	≤ 3,000m (9,842 ft.)
Operating temperature	5–40 °C (41–104 °F)
Operating humidity	≤ 80% RH for temperature up to 31 °C (88 °F), decreasing linearly to 50% RH at 40 °C (104 °F).
Storage temperature	0–60 °C (32–140 °F) Ensure that the unit has sufficient time to warm to ambient temperature before operating after storing the unit in a colder area.
Storage humidity	Less than 95% non-condensing.
IP Rating	IP40
CAT Rating	CAT II 300V
Mains Power Input	90–264 VAC, 47–63 Hz, 2.5A
Measurement connection rating	DC 16,000 V (nominal 15,000 V)
Maximum generated voltage	Nominal 15,000 V (15 kV) +-3%
Maximum input voltage connection	Must be connected only to isolated, de-energized circuits.
Mains measurement connection	Must not be connected to the mains supply.
Short-circuit (breaking) current	Must not be connected to energized circuits.
15 kV Test Leads (standard)	Kelvin-type high-voltage test leads, rated for 16 kV. The leads can be used on any ADX model.
2 kV Armature Test Leads	ADX Armature Surge Accessory—(ADX) ADX Armature Surge Clips (ADX-ASC) ADX Armature Surge Probes (ADX-ASP)

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WHAT'S IN THE BOX

ADX with Industrial Keyboard

Power Cord

Three Red Test Leads

One Black Test Lead

One Safety Ground Lead

Backpack

Test Status Indication Lights

Remote E-Stop

Safety Card

Setup Card

Quick Start Card

... and more, depending on the model and accessories ordered!



Optional Accessories

Footswitch

Transport Case

Armature Surge Hand-held Probes

Armature Surge Clips

DLRO Duplex Test Leads



Megger Baker Instruments
4812 McMurry Ave,
Fort Collins, CO 80525 USA
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