

ZENSOL

WWW.ZENSOL.COM



ZENSOL PRESENTATION
DIAGNOSTIC INSTRUMENTS FOR
HIGH VOLTAGE APPARATUS

SHARING KNOWLEDGE

To learn more about circuit breaker and OLTC diagnosis, visit our web site, you will find many articles:

www.zensol.com/en/sharing-knowledge

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WHO IS ZEN SOL

OUR HISTORY

Fouad Brikci Ph.D., founded Zensol in 1990 in the city of Montréal. For over 30 years, this company specializes mainly in instruments targeted at the electrical energy industry and maintenance services. Over the years, Zensol has seen tremendous success worldwide thanks to the quality and diversity of its highly qualified products and services.

WHAT MAKES US STAND OUT

Zensol has become the pioneer in a new testing method to detect problems in on line tap changers and circuit breakers. We have the knowledge to use this innovative technology while the transformers and circuit breakers are on line. Zensol develops its products and services while working closely with its customers. This close relationship allows us to offer reliable, high quality instruments that are adapted to all needs on all continents. We produce our instruments locally, thus ensuring irreproachable quality and follow-up.

OUR TEAM

We are a team made up of qualified engineers and technicians combining knowledge, expertise and competency. These values are the basis of our vision which combines both innovation and quality. Thanks to our conscientious and applied work, we perfectly conform to the ISO 9001 quality management system since 1999 (ISO 9001-2015 since 2018).

OUR INSTRUMENTS

Zensol offers various cutting-edge instruments to its customers to test and analyze circuit breakers (CBV-X, CBA-32P), on line tap changers (TAP-4, OTM-X) and reclosers (GEN-X). They are portable and suitable for harsh environments (extreme temperatures from -40°C to $+60^{\circ}\text{C}$). They are known for their sturdiness and their performance. Indeed, their life expectancy is more than 15 years. You will not find any fragile integrated components such as a printer, a keyboard or a screen. Our reinforced polyethylene cases ensure maximum protection of our instruments



WE MANUFACTURE INSTRUMENTS

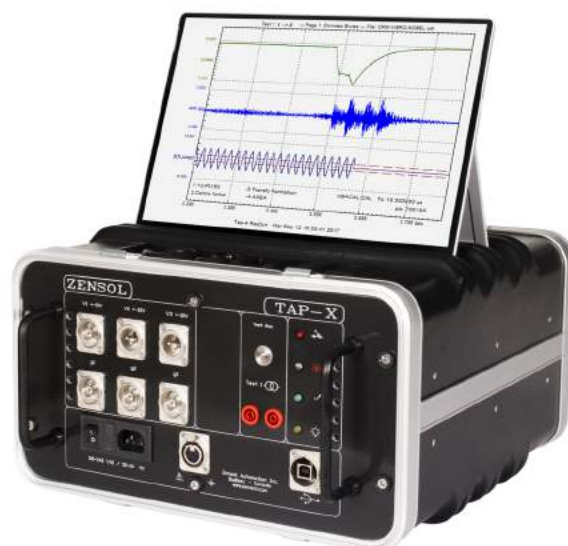
BREAKER
DIAGNOSIS



OLTC
DIAGNOSIS



RECLOSER
DIAGNOSIS



WE DEVELOP SOFTWARES

All our instruments are driven by our softwares thanks to portable computers. The softwares, targeted at electrical industry professionals, allow in-depth analysis of recordings made on your circuit breakers and transformers. They share a common interface, considerably reducing the learning curve associated with specialized software.

WE OFFER SERVICES

Our qualified professionals will offer services such as maintenance seminars adapted to your needs, theoretic or practical training and even webinars. Backed by their experience, they will be able to bring you the knowledge needed to optimally use our systems and make you efficient in your diagnostics.

WHO ARE OUR CLIENTS

- Maintenance teams for HV transformers and HV breakers of electrical utilities
- Mining, Aluminum
- Electrical maintenance service companies
- Breaker/transformer manufacturers
- Research laboratories & Universities

A FEW OF OUR CLIENTS



STATE GRID
CORPORATION OF CHINA

Schneider
Electric



PDVSA



Ameren



中国南方电网
CHINA SOUTHERN POWER GRID

AREVA

SIEMENS



CRE



CVG EDELCA



**Manitoba
Hydro**

ABB



سونلغاز
sonelgaz



edf

CFE
Comisión Federal de Electricidad

RioTinto Alcan

**AEP AMERICAN
ELECTRIC
POWER**



المكتب الوطني للكهرباء
Office National de l'Electricité



Cutler-Hammer

CIRCUIT BREAKER DIAGNOSIS

Zensol offers 4 different circuit breakers analyzers families, the CBV-X, CBA-32P, OTM-XB and the CB14. Our best seller, the CBV-X is the only instrument able to perform in a SINGLE test timing, motion, vibration and dynamic resistance of contacts associated to different measurements of current and voltage.



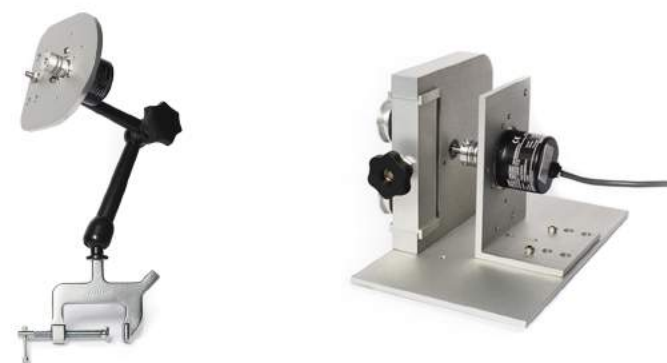
TESTS

TIMING

Measure the mechanical operating times of your breakers. Also assess the contacts bouncing thanks to an exceptional sampling time.

MOTION

Assess the condition of the moving parts of the breaker's contacts.



DRM

Dynamic Contact Resistance Measurement (DRM) is a widely recognized method to determine the condition of the breaker's main and arcing contacts, without opening it.



FIRST TRIP MONITORING

Able to carry out tests on the opening times of live circuit breakers.



DUAL GROUNDING

Keep both sides grounded during timing tests.



VIBRO-ACOUSTIC

Complete your vast arrays of tests by getting valuable information through the vibration test.



PERSONALIZED TEST

Depending on your imagination and the right sensor, you will be able to measure any signal presents in a high voltage substation.

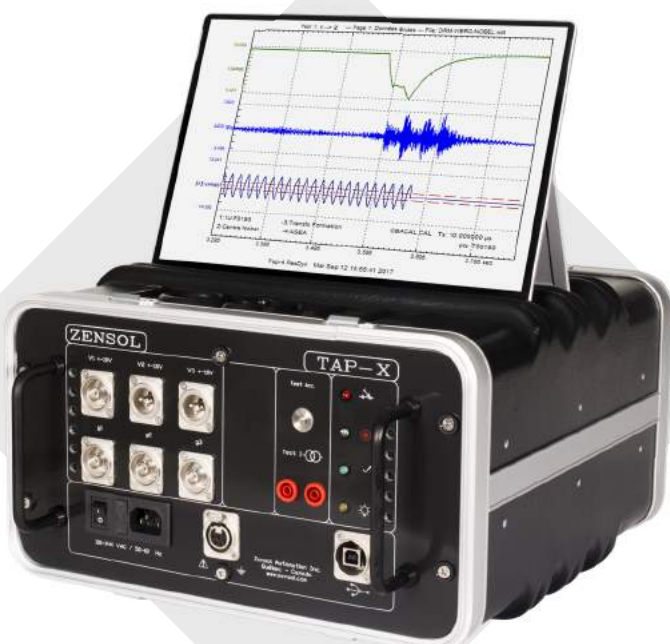
OLTC DIAGNOSIS

SOFTWARE DRIVEN (TAP-4, TAP-4-PLUS) AND STANDALONE OLTC EVENT RECORDER (OTM-X)

Just like a stethoscope, the units listen to the "heartbeat" of your OLTC without opening it. The TAP-4, the OTM-X or the new TAP-4-PLUS records the vibrations of OLTCs during their step-up or step-down operations.



OTM-X



TAP-4-PLUS



TAP-4

RECLOSER DIAGNOSIS

The GEN-I3V/6/12 are analyzers that can test any type of recloser control cabinet. Zensol has developed interfaces with a “plug and play” connection concept.



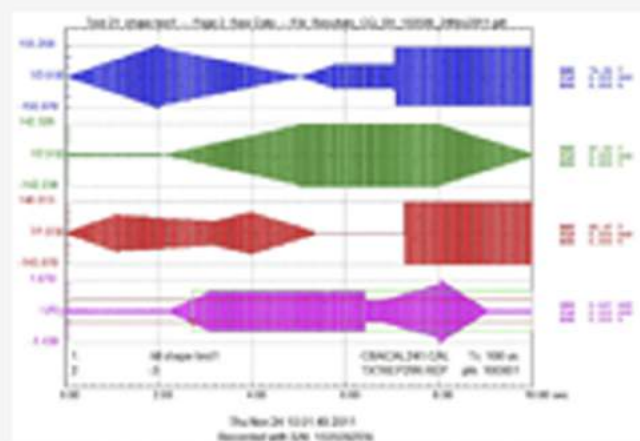
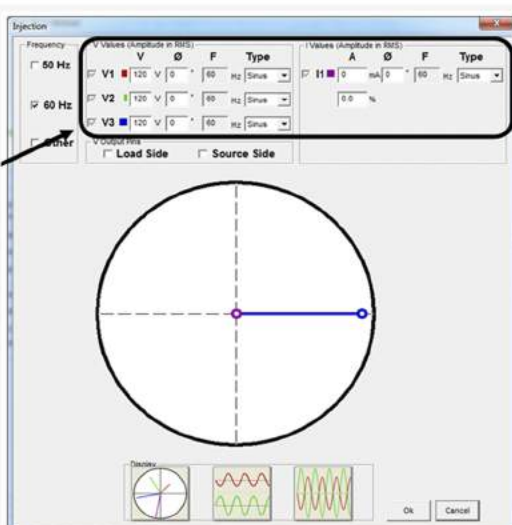
ABB-BOX



UNIV-BOX



OpenZen Software



BREAKERS TESTED WITH OUR INSTRUMENTS

750 KV
Urumqi China

735 KV
Lévis Québec

TRANSFORMERS TESTED WITH OUR INSTRUMENTS



Alberta, Canada



Baie Saint-Paul, Québec

ZENSOL IN QUEBEC

Partners and collaborators for more than 20 years, Zensol and Hydro-Québec maintain a relationship based on long-term trust. Exclusive electricity supplier in Québec, Hydro-Québec requires reliable, solid and easy to use instruments, allowing them to ensure the distribution of clean and renewable energy to its customers. The Zensol team, with its highly qualified engineers, continually work on the development of instruments and software able to fulfill Hydro-Québec's needs.

These years of collaboration have led to the creation of innovative methods, such as vibro-acoustics, recognized worldwide for its complete solution for tap changers and breakers. The extreme temperatures we experience have led us to develop high quality tests methods and instruments able to take on these climate conditions.



ZENSOL IN THE WORLD



WHERE ARE WE?

Carried on by our strong experience for more than 30 years, Zensol exports its instruments to over 50 countries on 6 continents.

OUR DISTRIBUTORS AND AUTHORIZED AGENTS

Our distribution network, present throughout the world, enables us to provide local service to our customers while maintaining a close relationship with them despite the distance.



HOURS

Monday to Friday
8:30am to 5pm



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