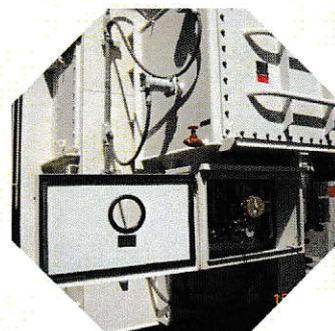
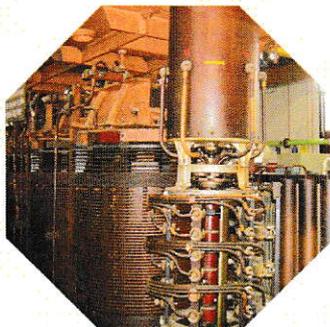
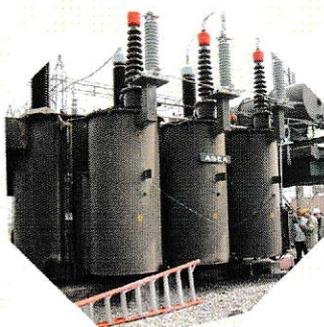
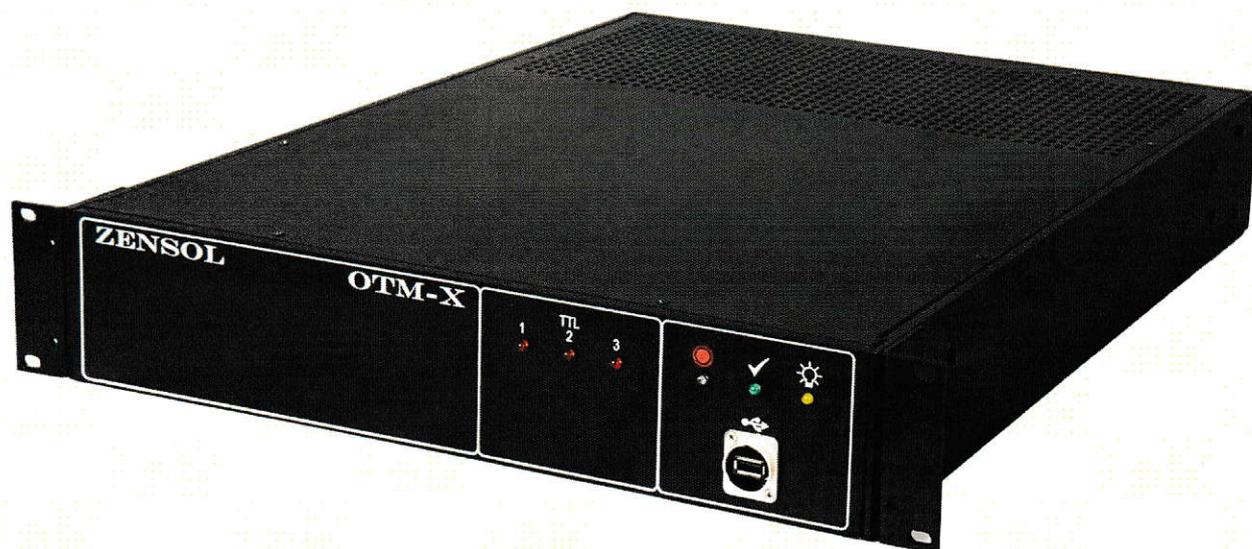


Zensol



OTM-X
Standalone Tap recorder

Zensol

The OTM-X is the only standalone recorder using the vibro-acoustic method and motor current testing to detect ONLINE your OLTC's malfunctions.

Thanks to its technology, it can detect problems such as contact wear, arcing in the diverter, arcing in the selector, synchronization problems, drive mechanism problem, brake failure etc.

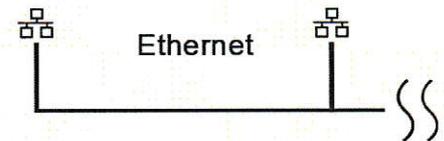
The OTM-X is a special machine, combining a powerful Zensol measurement instrument with a flexible and autonomous computer running the tests.

This combination allows the instruments to be continuously connected to the network. A remote user can thus access data and test plans from anywhere at anytime.

The OTM-X can be installed in the OLTC's control cabinet or in the substation's premises for any period of time. No need for an operator to run the tests, the OTM-X is capable of recording unlimited OLTC operations.



SUBSTATION



Local analysis thanks to OpenZen

Vibro-acoustic analysis

Thanks to an innovative measurement method based on the recording and analysis of vibro-acoustic signals, the OTM-X, like a stethoscope, will perform a complete check-up of the internal mechanical state of the OLTC, **WITHOUT OPENING IT !**

The vibro-acoustic method was developed and tested in the field for over fifteen years. The potential of this diagnosis method has been recognized in two transformer maintenance guides; IEEE.PC57.143 and Cigré A2.34

Diagnosis methods comparison

	Dissolved gas analysis	Dynamic resistance	Motor current	Vibro-Acoustic and motor current OTM-X
Drive			x	X
Synchronisation		x		X
Selector			x	X
Motor			x	X
Brake				X
Lubrication			x	X
Alignment			x	X
Arcing	x			X
Contact wear				X
Switch		x		X
Transition		x		X

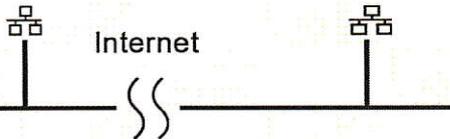
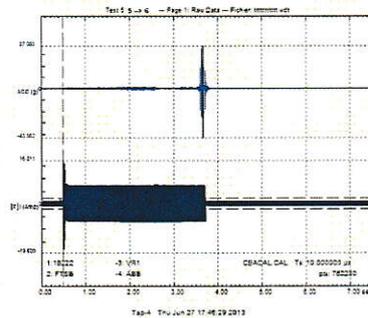
The OTM-X can reveal a wide variety of mechanical and electrical problems:

- Contact wear
- Drive and synchronization problems
- Brake failure
- Abnormal arcing
- Misaligned contacts
- Loose contacts
- Contact bounce

Features and benefits

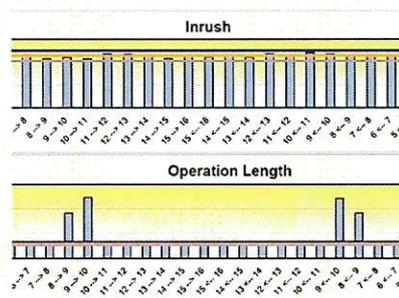
Anywhere in the world
(Shanghai, Montréal...)

Raw data



Remote analysis
thanks to OpenZen
and Zensol specialised team

Excel Analysis



Length Summary		
10	Average operation length:	5528 ms
11	Fastest operation:	-2 5495 ms
12	Slowest operation:	+10 11169 ms
Current average Summary		
17	Current Average:	1.30 Ams
18	Lowest current:	+3 1.30 Ams
19	Highest current:	+10 1.31 Ams
Inrush Summary		
24	Inrush Average:	4.54 Ams
25	Lowest inrush:	-7 4.33 Ams
26	Highest inrush:	+10 4.70 Ams
End of operation Summary		

KEY FEATURES

- Autonomous instrument
- Vibro-acoustic test with a high sampling rate (100KHz)
- Can be used on any type of OLTC or other mechanical equipment
- Multi-test recorder with 64 GB of local storage

APPLICATIONS

- Watch over your OLTC
- Watch over all electrical equipment in a substation
- Stretch time between maintenance interventions



MEASUREMENT CHARACTERISTICS

Sampling time: 10µs to 26ms
 Sampling rate: 38Hz to 100kHz
 Recording time: 10ms to 30 min
 A/D conversion: 16 bits
 Local storage: 64GB

DEDICATED ACCELEROMETER INPUTS (16 bits)

Number: 3
 Accelerometer type: ICP
 Resolution: 16 bits A/D converter
 Frequency range: 1 Hz to 20 kHz
 Signal to noise ratio: Better than 80 dB

MULTIFUNCTION ANALOG INPUTS (16 bits)

Number: 3
 Resolution: 16 bits A/D converter
 Frequency range: DC to 200 kHz
 Accuracy: +/- 0.3 mV
 Analog input range: +/- 10VDC (compatible with any industrial transducer)

COMMAND OUTPUTS

Number: 3
 Type: solid-state, opto-isolated.
 Voltage range: 2-200 VDC
 Maximum load current: 3.5 Amps
 Turn-on time: 75 µs maximum.
 Turn-off time: 750 µs maximum.
 Independent control of on/off states and timing.

REMOTE ACCESS FEATURES

- Total control over recorded data, test plans, programs, etc.
- Run test remotely
- Easily download recorded data via any network
- Scheduled and automated tasks
- Remote maintenance

ETHERNET PORT

Bandwidth: 10/100 Mb/s
 Remote control
 Remote data transfer

USB PORT

Bandwidth: 12/480 Mb/s

OPTIONAL ACCESSORIES

- Accelerometers
- Current probes
- Extended SSD local storage
- USB memory stick
- USB bluetooth card
- USB WIFI card
- BNC to 10-32 cables(3')
- BNC to BNC cables (10',25' and 50')
- Stud base for accelerometer mounting
- Glue

GENERAL

Rack Version

Dimensions: 19 x 3.5 x 18 in
 (48.2 x 8.8 x 45.7 cm)
 Weight: 13.2 lbs (6 kg)

Portable Version

Dimensions : 17" x 16.5" x 10"
 (43 x 42 x 25.4 cm)
 Weight : 25.3 lbs (11.5 kg)
 Supply voltage : 100-240 VAC

50/60 Hz +/- 10%
 Working temperature : 0 to 50°C (32°F to 122°F)
 Storage temperature : -20°C to 70°C (-4°F to 158°F)
 Humidity : 0-95% Non Condensing

ANALOG TRIGGER CAPABILITY

Works on any analog input
 AC or DC signals
 Rising edge or falling edge
 Works on noisy environment

Rack Version



Portable Version



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