

DOBLE IN-SERVICE TESTING & ASSESSMENT

EMI Surveyor

For Rotating Machine & Power Plant Applications

FIND INSULATION AND CONDUCTOR DEFECTS IN MOTORS, GENERATORS, TRANSFORMERS, SWITCHGEAR, CABLE TERMINATIONS & OTHER HV EQUIPMENT

Doble's EMI Surveyor is a non-invasive, in-service survey solution that can identify more than 65 different electrical and mechanical defects that other technologies are unable to detect in HV electrical plant equipment. The EMI Surveyor measures the release of electromagnetic (EMI) energy resulting from HV electrical insulation-related partial discharge defects, corona, random noise, as well as LV/HV mechanical conductor-related arcing defects.

The EMI Surveyor comes complete with the PDS200 spectrum analyzer, EMI sniffer, split-core high-frequency current transformer, wireless synchronization adapter and all required antennae and cables for a complete EMI assessment.

For more effective risk management and outage maintenance & repair planning, many nuclear and fossil plants routinely conduct EMI testing 3-6 months prior to an outage. Peaking plants routinely conduct EMI testing in conjunction with the plant's annual emission monitoring relative accuracy test audits.



FEATURES

- Portable, easy to use, handheld devices
- Provides dual EMI and RFI partial discharge spectrum capabilities
- Easily connects to multiple sensors including high-frequency current transformers, UHF drain valve, TEV probes, and directional antennae for various applications
- Listen to radio noise generated from defects for more in-depth analysis
- Signal can be power cycle synchronized to facilitate phase resolved PD analysis

BENEFITS

- Efficiently plan outages by improving prioritization of needed maintenance & repairs
- Non-invasive, in-service electrical "system assessment" surveying solution
- No permanent high-voltage connection mitigates arc flash hazards
- Proven technology providing asset maintenance recommendations after the first test

ASSET PERFORMANCE SERVICES

Leverage Doble's expert EMI Diagnostics field services team to perform testing at your plant for a comprehensive electrical plant assessment. Doble can also provide comprehensive classroom and field data acquisition training enabling your team to capture EMI/RFI data and forward to Doble's experts for detailed data analysis, report writing and follow up consultation.

Testing with the EMI Surveyor

Using the PDS200, data is collected from the temporary placement of a split-core high frequency current transformer around the power conduit, safety ground or neutral lead of the component being tested.

EMI testing measures a broad spectrum of radio frequencies to allow the test engineer to view unique patterns at each frequency, including corona, gap discharges, random noise, arcing and more. Arcing has 50/60Hz current flow and is produced by many mechanical defects such as a wiped bearing, loose connections or broken rotor bars in an induction motor.

The test engineer can evaluate time domain patterns and listen to corresponding radio noise for a more in-depth analysis. A handheld EMI sniffer is also used to measure EMI signals radiated from each component or system defect, aiding in identifying and locating the defect.

Training Services

Add two days of classroom and hands-on field training at your location. A typical training session would include:

- Overview of EMI, PD and RFI detection applications
- EMI fundamentals
- International standards
- Working with the EMI Surveyor
- Taking reliable measurements
- Analyzing data for proper data acquisition
- Managing PDS200 data and firmware
- Overview of PDViewer software



PDS200 TECHNICAL SPECIFICATIONS

DETECTION AND SWEEP FUNCTIONS	
Detector Modes	Peak, Average, Synchronous Peak and Average Mode (S.P.A.M.), Quasi-Peak, Synchronous Peak and Quasi Peak (S.P.Q.P.)

Sweep Processing	Continuous, Counted and Single Mode
------------------	-------------------------------------

FREQUENCY

	EMI	RFI
Frequency Range	50 kHz - 100 MHz	50MHz - 1000 MHz

Resolution Bandwidth (RBW)	9kHz / 120 kHz	120 kHz / 6 MHz
----------------------------	----------------	-----------------

Accuracy	± 10 kHz	± 100 kHz
----------	----------	-----------

POWER SUPPLY

External Supply	External DC adapter, 12V @ 2A
-----------------	-------------------------------

DC Adapter	85-264 VAC (47-63 Hz) / 12 VDC
------------	--------------------------------

Internal Battery	Li-Ion, high capacity 7.2V, 6.6Ah
------------------	-----------------------------------

Battery Life	>6 hours
--------------	----------

Charging Time	3 hours
---------------	---------

ENVIRONMENTAL

Enclosure	IP64 – top covers closed IP51 – top covers open
Transport case	IP67

Electrostatic discharge according to EN 61000-4-2

Humidity	0-95% non-condensing
----------	----------------------

Temperature	Operating temperature: -10°C to +50°C / 32°F-122°F Storage temperature: -20°C to +70°C / -4°F - 158°F
-------------	--

ORDERING INFORMATION

PRODUCT DETAILS

Doble EMI Surveyor

Complete with PDS200, whip antenna, wireless sync transmitter with antenna, EMI sniffer, split-core HFCT (1 – 100 MHz with 5-inch window), noise isolating earphones, all required cables, power cord, transport case and user guide. PDViewer software included.



Doble Engineering Company
Worldwide Headquarters
85 Walnut Street, Watertown, MA 02472 USA
tel +1 617 926 4900 | fax +1 617 926 0528
www.doble.com

Specifications are subject to change without notice.
Doble is ISO-9001:2008 certified.
Doble is an ESCO Technologies Company.
MKT_SL_EMISurveyor_03/16