

PD-Smart



40 years Lemke PD knowledge

TOGETHER WE POWER THE WORLD®

PARTIAL DISCHARGE ANALYZER

The Doble Lemke PD-Smart is a versatile, multi-application partial discharge (PD) analyzer especially designed for day day field use. With its easy-to-use software interface and capability to conduct both on-line and off-line measurements, there really is very few places you can't use a PD-Smart. It is well established that partial discharge activity is one the leading indications of insulation health and should be measured as part of an asset management program.

Features

- Smart graphical User Interface
- Enhanced Digital Filtering
- Fully included Gating Features
- Rugged and Reliable



Multiple Applications



Transformers



Rotating Machines



Cables



Switch Gears

Features

FFT of the background noise

The FFT of the background noise gives you excellent information about the noise situation during your measurements and will support you in finding the right frequency slot.

Gating

Advanced Doble Lemke Noise-Gating-Technology: The PD-Smart comes with an integrated separate noise-gating channel for noise-suppression via external antenna.

Digital Filtering

With the digital filtering it is quite easy to get rid of the noise, which occurs mainly during onsite measurements. You have full control over the high and the low pass values without any limitations to the bandwidth.

Smart User Interface

The new smart user interface represents over 40 years of Lemke's knowledge in design of measurement equipment. Each user can now customize the layout of the dashboard to the user's needs. PD testing will therefore be easier, faster and a great experience.

Rugged and Reliable

The unit is self-contained in a rugged polyurethane case. Complete electrical isolation between the PD-Smart and PC provides superior safety in high voltage test setups.

Synchronous Measurement

The system can easily be extended for truly synchronous multichannel measurements. The Star-Diagram helps to differentiate various PD sources and Noise from each other. While measuring three phases simultaneously, the combined results are displayed in the Star-Diagram.

True Phase Resolved Analysis

The PD-Smart measures both the PD and the actual applied voltage under test. This way, users can ascertain the effect of the voltage applied as well as the PD produced. Phase resolved analysis provides keen insight into the characteristic and source of the PD.

Analysis Tools

Using internationally recognized algorithms approved IEEE and IEC, the best possible diagnosis for fault conditions can be realized. These tools include Phi-Q-N, Phi-Q and Phi-n displays.

Interference Rejection

Nothing is more problematic than the interference caused by on-site noise. The PD-Smart has a variety of interference rejection techniques to include windowing, gating and frequency band shifting. Adjustable internal digital filter improves the rejection of interference and broadcasting frequencies.

State of the Art

With advanced noise rejection, pulse sequence recording and frequency domain signal conditioning, the unit can be used to make critical decisions with data you can trust.

Multiple Applications

The PD-Smart has a wide variety of application to include cable, transformer, rotating machine and switchgear testing. It's also possible to use the PD-Smart for both off-line and on-line testing.

Specialized Cable Fault Location

Using time domain reflectometry, the PD-Smart can locate cable faults.

Technical Specifications

Voltage supply:

- 8.4V DC with battery
- External power supply (100–240V, 50–60Hz)

Outputs:

- 1 x FOL-Output with E/O converter as Ethernet
- 1 x FOL-Output Downlink
- 1 x FOL-Output Uplink
- 1 x TNC Trigger output
- 1 x FOL Trigger output

Inputs:

- 1 x TNC HF PD signal
- 1 x TNC LF voltage signal
- 1 x TNC HF Gating signal

Input voltage:

- Voltage: 50V rms (max)
- PD signal: 70V rms (max)

Input impedance:

- Voltage: 1 MOhm
- PD signal: 50 Ohm

Input frequency range:

- Voltage: DC to 10 kHz
- PD signal: DC to 20 MHz

Integration in time and frequency range

- Time Range: 140ns ... 8µs
- Frequency range: 35kHz ... 20MHz
- Filter bandwidths free adjustable

Dynamic range:

- Voltage: 16 bit, 80 dB
- PD signal: 16 bit, 100 dB

PD input protection:

- Input protection against over-voltage and short-circuit

PD input coupling:

- DC, AC

Single pulse detection: < 4ns

Max. double pulse

resolution: < 32ns
(time range, super position error < 1 %)

Max. pulse frequency: > 2,1 MPulses/sec

Synchronizations

between units: < 800ps

Temperature range:

- 0°C to 40°C (operation)
- 0°C to 60°C (storage)



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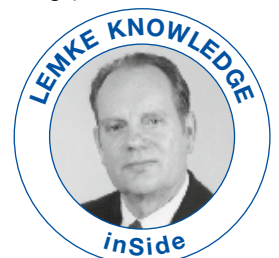
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Doble is ISO Certified

Doble is an ESCO Technologies Company