



## DOBLE IN-SERVICE TESTING & ASSESSMENT

# PDS100

Partial Discharge Surveyor

## CHECK IN-SERVICE SUBSTATION EQUIPMENT FOR SIGNS OF INTERNAL INSULATION DAMAGE

The Doble PDS100 Partial Discharge Surveyor is an RFI surveying tool that is designed for use in a live substation. Without the need for outages, the PDS100 can detect partial discharge (PD) in just a few seconds, thus making it an ideal tool for a condition based maintenance program. Whole substations can be quickly surveyed and analyzed.

### FEATURES

- Rugged, light-weight, hand-held instrument
- Intended for PD survey when testing object(s) remains in service
- RFI detection technology - principle based on capturing electromagnetic energy radiated from area of defect
- Multi-mode functionality for noise recognition, PD detection and classification
- Synchronization with power frequency via wireless module to facilitate Phase Resolved Partial Discharge (PRPD) pattern
- Internal data storage
- PDF Viewer software for data review and analysis
- Works with a variety of PD sensors, probes and antennae for various applications

### BENEFITS

- Non-invasive, safe and effective method for PD detection
- Multiple applications
- Application as part of a regular inspection/survey or for targeted analyses
- Cost-effective way to include PD survey in condition based maintenance program (CBM)



## PDS100 TECHNICAL SPECIFICATIONS

POWER SUPPLY	
External supply	External DC adaptor, 12 V @ 2 A
DC adapter	85 - 264 V AC (47 - 63 Hz)/ 12 V DC
Internal battery	Li-Ion, 7.2 V, 6.6 Ah
Battery life	> 6 hours
Charging Time	3 hours
DETECTION AND SWEEP FUNCTIONS	
Detector modes	Peak, Average and Separate Peak and Average Mode (SPAM)
Sweep modes	Continuous, Counted and Single Mode
Synchronization	Synthesized phase or wireless synchronized to power frequency
FREQUENCY	
Measurement range	50 MHz - 1000 MHz
Resolution Bandwidth (RBW)	120 kHz / 6 MHz
AMPLITUDE	
Display unit	X/Y-axis: ms - MHz / dBm or MHz / dB $\mu$ V
DATA STORAGE AND TRANSFER	
Internal	NV Flash Memory (SD)
External	USB storage class compliant USB Flash Drive / Hard Disk Drive
Data Transfer	USB A/B to and from computer
File Format	XML for use with Doble PDViewer software
Real Time Clock	Battery backed
CONNECTIVITY	
USB 1.1 Host and Client	
LCD SCREEN	
Display	TFT, 6.4: Transreflective
Size	132 x 100 mm / 5.20 x 3.94 in (W x H)
Resolution	640 x 480 pixels, 256 colors
Backlight	LED
MECHANICAL	
Instrument	225 x 310 x 70 mm (WxHxD) 8.85 x 12.20 x 2.25 ins (WxHxD) Weight 2.4 kg / 5.5 lbs
Transport Case	425 x 284 x 155 mm (WxHxD) 16.75 x 11.20 x 6.10 ins (WxHxD) Weight 3.4 kg / 7.5 lbs
Total Weight	6.0 kg / 13.2 lbs incl. instrument, transport case, manuals, CD and charger
ENVIRONMENT	
Enclosure	IP64
Transport Case	IP67
Humidity	0 - 95% non-condensing
Operating temperature	-10°C to + 50°C / 14°F to 122°F
Storage temperature	-20°C to + 70°C / -4°F to 158°F



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## USER-FRIENDLY

The PDS100 is a rugged, light-weight and powerful high-tech instrument with a big display and large soft key buttons. The instrument is easy to use and the software enables the operator to record and analyze PD signals and make decisions for further actions.

## TECHNOLOGY

The instrument searches for PD in the radio frequency area. Harmful PD will reveal itself by the electromagnetic energy emitted from the area where the activity is. The PDS100 captures the electromagnetic energy in the RF spectrum and displays a "footprint" of the RF interference from partial discharge causing the radiation.

## ORDERING INFORMATION

### PRODUCT

#### PDS100

Complete with Case, Antenna, Adapter and PC software

### OPTIONAL ACCESSORIES

#### HFCT

Scan for electrical pulses (f<200 MHz) as evidence of PD to earth. Can be clipped on an apparatus ground wire (transformers, dead tank breakers) and connected to a PDS200.

#### Directional Antenna

Provides more specific location of RFI sources. With this combination you not only determine the presence of PD sources, you can also establish the direction of the emissions.

#### UHF Drain Valve Probe DN50/DN80

Insert into the suspect transformer to find RFI as evidence of partial discharge.

#### Transient Earth Voltage (TEV) capacitive probe

Find PD in metal-clad switchgear and GIS.

#### Synchronization

Sync kit available to allow for more accurate phase resolved PD patterns

Specifications are subject to change without notice.  
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