

HVPD Kronos® Spot Tester

Detect, Measure and Locate
Partial Discharge (PD)



Detects PD in the following assets:



Cables



Switchgear



Transformers



Rotating
Machines



HVPD Kronos® Spot Tester

Portable diagnostic unit is designed for detecting PD in all types of in-service plant.

The HVPD Kronos® Spot Tester is a six-channel, synchronous, battery-powered test unit with a robust and compact design optimised for field portability.

Quick and easy to set up, it detects the early stages of insulation deterioration, providing an early warning against MV and HV insulation faults. This diagnostic unit supports condition-based maintenance schemes, reducing unplanned outages, downtime and maintenance costs.



Laptop with HVPD Kronos® Ultimate software for test set-up and data analysis

Compatible with a wide range of PD sensors

Suitable for spot testing and short-term monitoring

- HFCT
- HVCC
- TEV
- AA
- BTS
- UHF
- SMART TB3™

Scan to view more on the HVPD Kronos® Spot Tester on our website



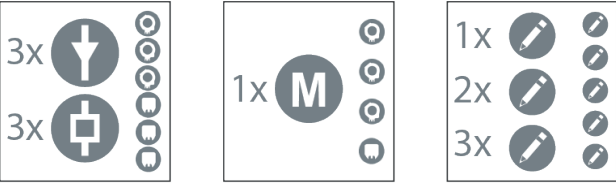
HVPD Kronos[®] Ultimate software

Our software contains all the tools needed for data acquisition, analysis of PD trends and PRPD patterns as well as report generation.

Using heatmap plots, clustering of similar signals can be identified based on various pulse wave shape parameters, and then used to optimise the discrimination of PD signals from background noise interference.

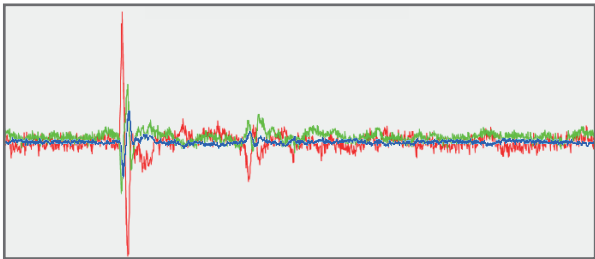
Control Test Methods

Use pre-determined sensor configurations for specific assets, or create your own for repeatable test set-ups.



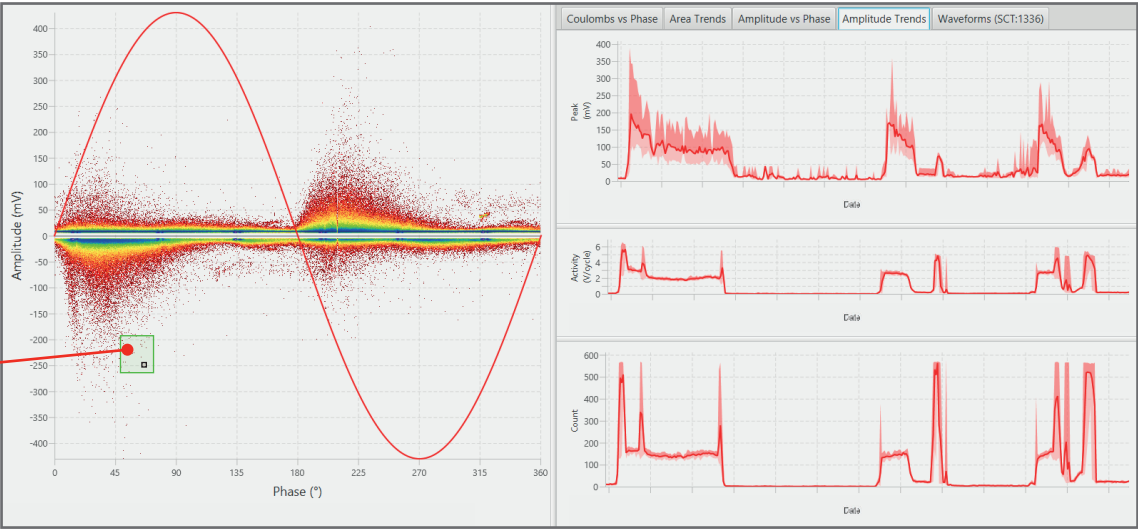
Display Waveforms

Individual pulse waveforms can be viewed from up to six synchronous channels.



View PRPD Patterns

Industry standard view of PD across power cycle with heatmap plot showing PD intensity.

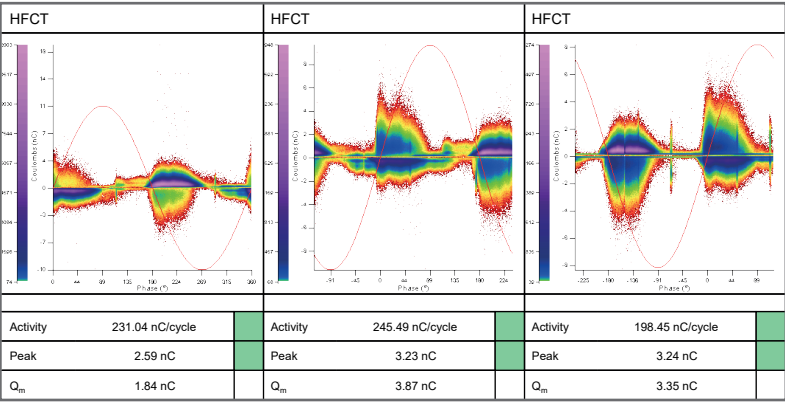


View Trendlines

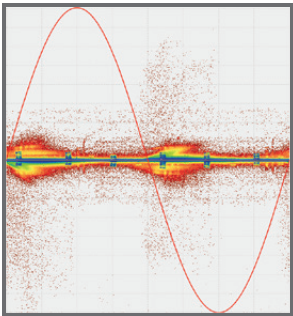
View variations in PD level and count during and between tests or monitoring sessions.

Generate Automatic Reports

Simplified reports with PRPD patterns trend lines and summary levels for single phase and three phase tests.

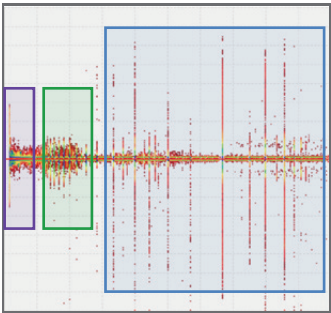


Raw Data



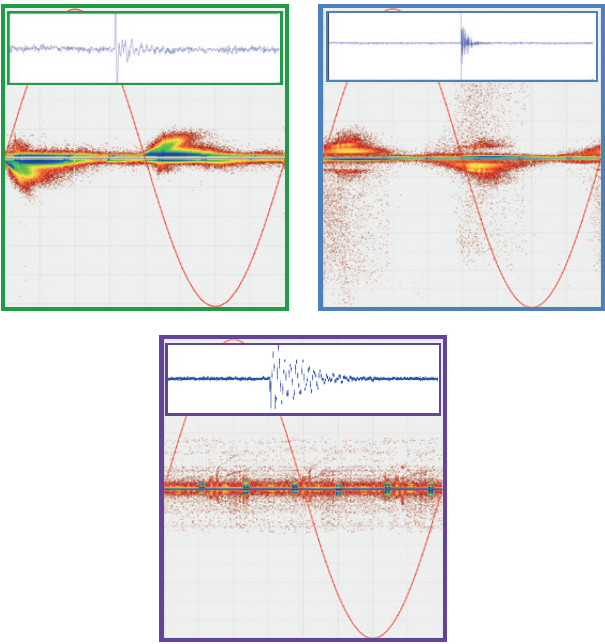
Signal Conditioning
Event Detection
Parameter Measurement
Event Recogniser

Clustering



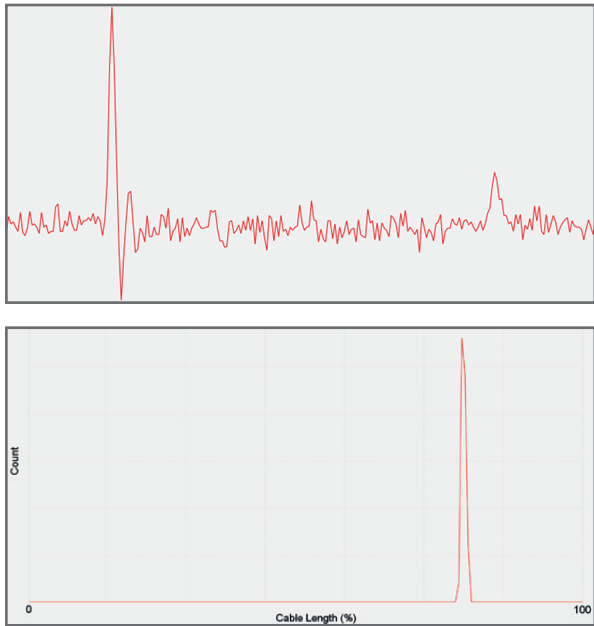
Cluster Denoising Rules
Machine Learning

Processed Data

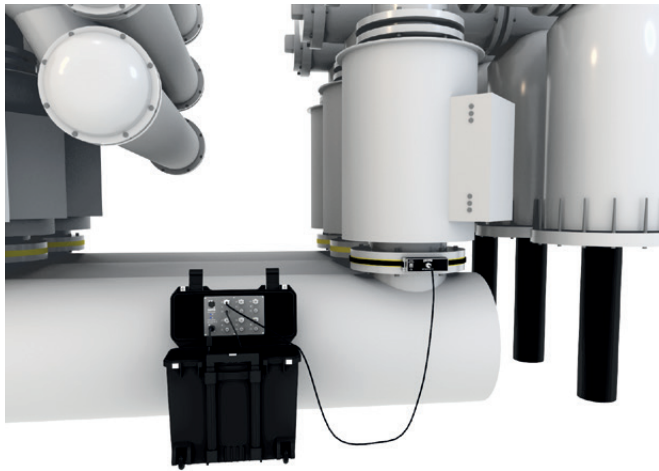


Locate PD in Power Cables

Detection of pulse reflections to locate PD in power cables with PDMAP plots.



Key Features



UHF Testing
Detect PD using pre-installed or temporary UHF sensors and couplers in HV/EHV gas-insulated switchgear and transformers using the UHF Converter.



Short-Term Monitoring
Conduct short-term continuous monitoring sessions with a portable server, trend PD, and correlate with site parameters such as temperature and humidity.

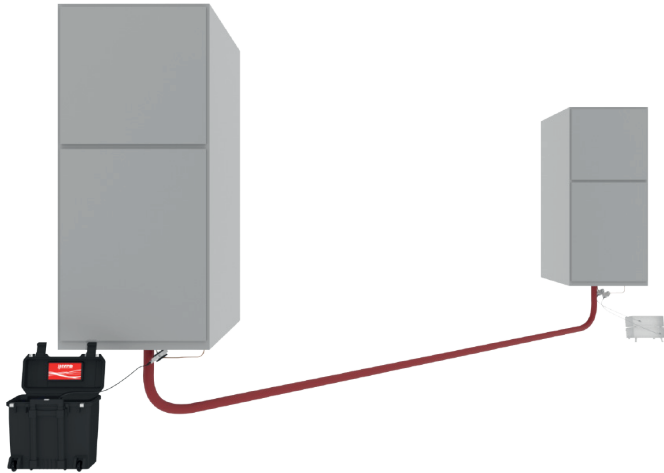
On-line PD Spot Testing with Pre-installed Sensors

Test your assets using pre-installed sensors such as HFCTs, Rogowski coils and coupling capacitors.



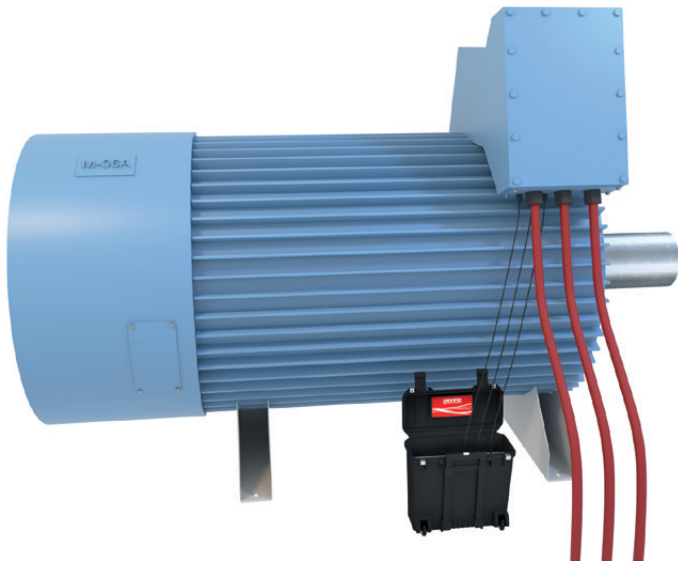
Precedence Detection
Locate PD in MV metalclad air-insulated switchgear by determining which sensor PD signals arrive at first.

Cable Mapping
Pinpoint PD locations along the length of power cables from one end of the cable (single ended) or with the addition of a transponder at the far end of the cable (double ended).



Offline PD Testing

Perform offline testing with power frequency or resonant test sets for factory and site acceptance.



MCSA Testing
Analyse the rotor condition of rotating machines to identify issues such as damaged rotor bars and eccentricity.

Training

Our PD training courses covers the theoretical aspects of assessing insulation risk – giving you the knowledge you need to make the best maintenance planning decisions for your network.

If you or your team are responsible for electrical assets operating at 3.3 kV and above, knowledge of partial discharge condition monitoring can help you avoid unplanned outages on your network resulting from electrical insulation failure.

Classroom and at-site training courses are available, covering use of the HVPD Kronos® Spot Tester in the field and data analysis with the HVPD Kronos® Ultimate software.

Please email training@hvpd.co.uk for more information.



HVPD Kronos® Care

Our HVPD Kronos® Care Plan provides you with comprehensive support to suit your needs.

Expert data analysts can provide you with in-depth and summarised reports.

Software updates and extended hardware warranty options helps to ensure your HVPD Kronos® Spot Tester is kept in service and up to date.



PD Analysis



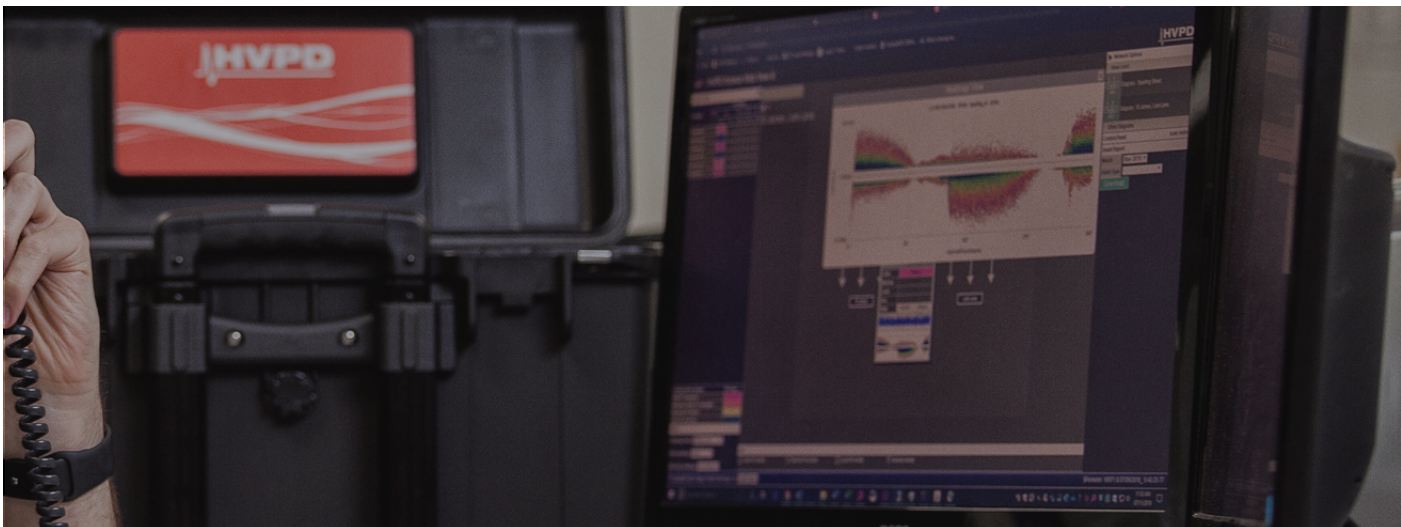
Remote Support



Software Updates



Warranty



TECHNICAL SPECIFICATION

PD Data Capture and Processing System

Analogue bandwidth	50 MHz
Sample rate	100 MS/s
Sample memory (one channel)	2 MS
Trace length in each data capture	20 ms
Minimum pulse rise time	10 ns
Input voltage range	1 V / 20 V
Dynamic range	14 bit
Input channels	6
Input connection type	BNC
Data capture method	Synchronous acquisition on all channels
Number of events captured per cycle	5000 (max)
Data capture and processing time (1 channel)	2 s (typical) 30 s (max)
Data capture and processing time (all channels)	3 s (typical) 40 s (max)
Input filters (high pass)	50-60 kHz / 100 kHz / 200 kHz
Input filters (low pass)	500 kHz / 1 MHz
Trigger	Automatic, AC line supply, internal mains field detector, internal photodiode, external input
Trigger Frequency	25 – 500 Hz
Connections	Communications (USB 2.0), Auxiliary (XLR), Trigger in (BNC), Trigger out (BNC)
Suitable PD sensors	HVCC, HFCT, TEV, AAP, SMART-TB3™, BTA, UHF (with UHF converter)

Low Frequency Digitiser (MCSA/Offline option)

Analogue bandwidth	10 kHz
Sample memory	2 MS
Sample rate	20 kS/s
Input voltage range	1 V
Dynamic range	12 bit
Data capture method	Automatic, synchronous with PD

Power

Input voltage	100 – 240 V AC 40 VA
Battery life (in use)	≈ 8 h
Battery charge time	< 4 h

Mechanical Specification

Dimensions (width, height, depth)	473 x 419 x 235 mm
Weight	10.5 kg

Laptop Specification (minimum)

Operating system	64 Bit Windows OS
CPU	Intel Core i5 (quad-core)
Memory	8 GB RAM
Screen resolution	1920 x 1080
Hard disk	200 GB

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