



Advanced Test Equipment Corp.

www.atecorp.com

800-404-ATEC (2832)

## PDS Insight™ 2

Detect and trend Partial Discharge (PD) with the PDS Insight™ 2 to ensure the safety and reliability of your MV/HV assets.



Detects PD in the following assets:



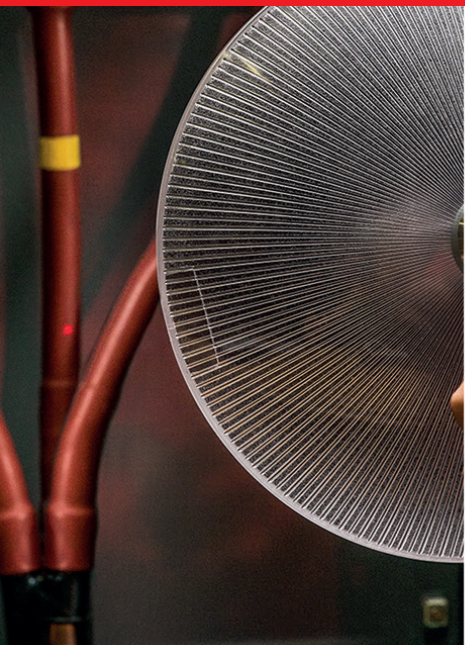
Switchgear



Transformers



Cables





# PDS Insight™ 2

The PDS Insight™ 2 is a handheld On-line PD detection unit for condition-based maintenance and substation access safety.

Simple to use, this handheld device can be placed in the palm of your hand for safe, reliable testing of MV electrical assets.

The Phase Resolved Partial Discharge (PRPD) feature in the PDS Insight™ 2 helps to differentiate misleading background noise from true PD sources, helping to ensure you avoid in-service failures and costly unplanned outages.

Measures Peak PD levels, PD Pulse Count and Cumulative PD Activity across the 50/60Hz power cycle to enable PD activity severity to be assessed

Colour coded PD criticality level helps to inform whether further investigation of the asset is required

PRPD feature enables PD pulses to be viewed with reference to the 50/60Hz sine wave to distinguish PD sources from background noise

Smart Docking Station with built-in function checker



HFCT sensor for measuring PD activity in cables



Built-in Acoustic sensor for use with the Acoustic probe, Parabolic dish and headphones provided



Built-in TEV sensor for detecting 'local' PD activity in metal clad enclosures such as switchgear, cable boxes and dry-type transformers



Built-in barcode scanner to link each asset to a Point of Attachment (POA) label for consistent measurements and trending within the OLPD Manager™ Software

# Analyse and report PD Data using the OLPD Manager™ Software

The OLPD Manager™ Software is a dedicated application enabling historic PD data to be reviewed at any time.

With data transfer via USB, the software enables asset and substation registration, PD data analysis, benchmarking and trending of PDS Insight™ 2 data.

A choice of three table views (Sites, Panels or POAs) with measured PD values over the time range selected

A list of PD measurements imported from the PDS Insight™ 2

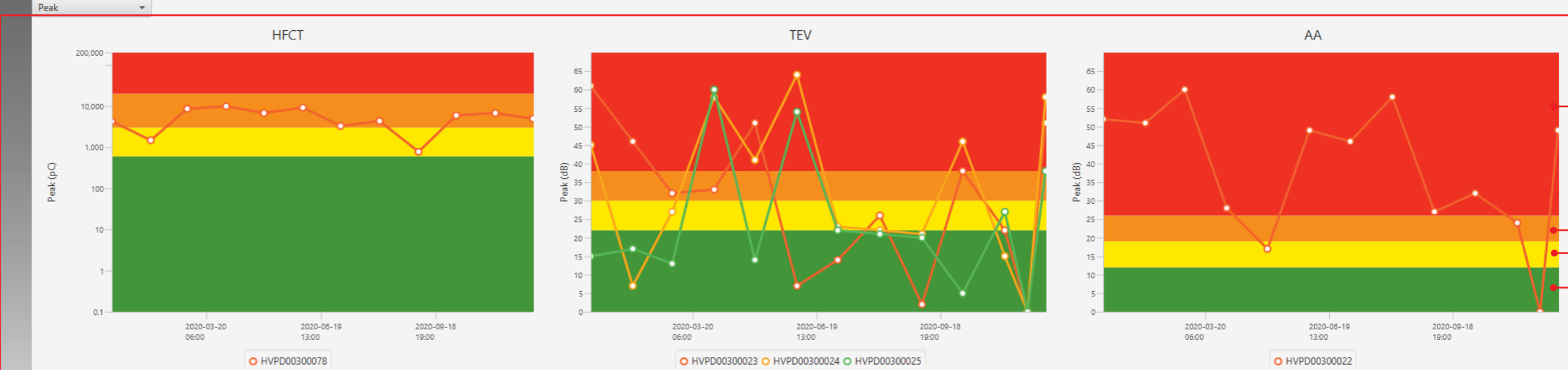
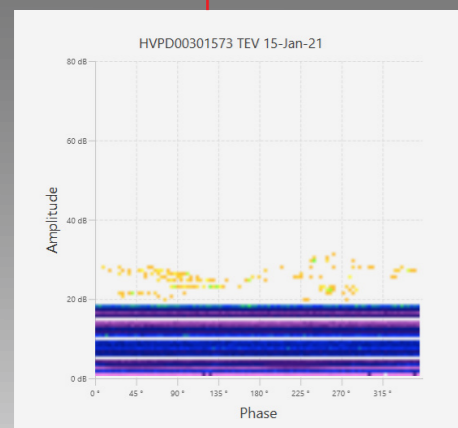
A choice of three tab views: Results, Measurements and PRPD

A hierarchical view of the Sites, Substations and Panels

Review and analyse historical trend lines and PRPD patterns

Substation	Panel ID	POA ID	Sensor Type	Peak	Units	Count (/cycle)	Activity (%/cycle)	Date	Peak List
Sub A	A1	HVPD00300023	TEV	0	dB	0	0	21-Nov-20	
Sub A	A1	HVPD00300023	TEV	51	dB	0	12	05-Dec-20	
Sub A	A1	HVPD00300024	TEV	45	dB	0	12	05-Jan-20	
Sub A	A1	HVPD00300024	TEV	7	dB	0	12	05-Feb-20	
Sub A	A1	HVPD00300024	TEV	27	dB	0	12	05-Mar-20	
Sub A	A1	HVPD00300024	TEV	58	dB	0	12	05-Apr-20	
Sub A	A1	HVPD00300024	TEV	41	dB	0	12	05-May-20	
Sub A	A1	HVPD00300024	TEV	64	dB	0	12	05-Jun-20	
Sub A	A1	HVPD00300024	TEV	23	dB	0	12	05-Jul-20	
Sub A	A1	HVPD00300024	TEV	22	dB	0	12	05-Aug-20	
Sub A	A1	HVPD00300024	TEV	21	dB	0	12	05-Sep-20	
Sub A	A1	HVPD00300024	TEV	46	dB	0	12	05-Oct-20	
Sub A	A1	HVPD00300024	TEV	15	dB	0	12	05-Nov-20	
Sub A	A1	HVPD00300024	TEV	0	dB	0	0	21-Nov-20	
Sub A	A1	HVPD00300024	TEV	58	dB	0	12	05-Dec-20	
Sub A	A1	HVPD00300025	TEV	15	dB	0	12	05-Jan-20	
Sub A	A1	HVPD00300025	TEV	17	dB	0	12	05-Feb-20	
Sub A	A1	HVPD00300025	TEV	13	dB	0	12	05-Mar-20	

Color coded guidelines indicating severity of PD



## How to use the PDS Insight™ 2 with the OLPD Manager™ Software

### 1 Set up the software

Import your list of assets from Microsoft Excel to the OLPD Manager™ or use the PDS Insight™ 2.

### 2 Scan the asset

Scan the asset instantly or use POA labels to identify each asset tested.

### 3 Measure for PD

Measure PD level, short term trends, 2D and 3D PRPD Patterns.

### 4 Download PD Data to PC

Review and trend data using the software.

### 5 Plan of action

Review PD data and trend information to determine if further investigation is required. Pinpointing of fault location may be required using the HVPD Kronos® Spot Tester.





# Kit Options

The PDS Insight™ 2 is available in two kit options to suit your PD testing requirements.



Kit Number	Assets	Description	Content
1		Entry level kit that includes headphones & battery chargers for PD detection of switchgear and transformers.	1x Docking station for charging, function check and PC data sync, 1x Industrial grade Listen-Only Headset, 204x POA Labels, 1x Mains AC/DC Battery Charger, 2x USB A – Micro B cables, 1x User Manual, 1x Quick start guide, 1x Hardshell Case (suitable for carriage as aeroplane hand luggage), 1x PDS Insight™ Software Licence for laptop/PC
2		This kit includes an HFCT sensor which allows you to test for PD in cables.	Includes everything listed in Kit 1, 1x HFCT100ALI and 1x 2m of cable

# Optional Accessories

Optional accessories are available to enable use of the PDS Insight™ 2 with a wider range of assets such as overhead and outdoor insulators in outdoor switchyards as well as difficult to reach areas inside the switchgear.

### HVPD Indoor Acoustic Search Probe



For measuring PD in difficult to reach areas such as vents and seams where the acoustic signals emanate from inside the MV air-insulated switchgear.

### HVPD Outdoor Acoustic Parabolic Receiver



For measuring the surface and corona discharge from overhead outdoor insulation in outdoor HV switchyards.

## TECHNICAL SPECIFICATION

<b>TEV Sensor</b>	
Measurement Range (Peak)	0 - 70 dBmV
Measurement Range (Cumulative Activity)	0 - 350,000 mV/cycle
Frequency Response	5 - 60 MHz
Resolution	1 dB
Accuracy	±1 dB
<b>HFCT Sensor</b>	
Measurement Range (HFCT 100/50, Ztr=3.9)	100 pC – 100 nC
Measurement Range (Cumulative Activity)	200 pC/cycle – 20,000 nC/cycle
Frequency Response (-3 dB response)	100 kHz - 20 MHz
Resolution	1 dB
Accuracy	±1 dB
<b>AA Sensor</b>	
Measurement Range	0 - 70 dBµV
Centre Frequency	40 kHz
Resolution	1 dB
Accuracy	±1 dB
Gain Stages	1
<b>Phase Resolved PD (PRPD)</b>	
Synchronisation Methods	Optical/Mains Field Detector/BNC input (selectable)
PRPD Plot Types	2D & 3D
<b>Hardware</b>	
Enclosure	Polycarbonate ABS/ TPE
Display	3.5" 320 x 240 65k colour LCD
Control	5 button membrane keypad
I/O Connections	BNC (HFCT), LEMO (external AA), USB Micro B (charger), 3.5mm Jack (headphones)
<b>Operating Environment</b>	
IP Classification	IP54
Temperature	-20°C to +55°C
Humidity	0 - 90% RH non-condensing
<b>Power</b>	
Internal Battery	Lithium-ion, 3.7 V, 4.5 Ah
Operating Time	Approx. 8 hours
Charge Time from Empty	Approx. 4 hours
<b>Battery Charger</b>	
Input (V <sub>in</sub> )	90 - 264 V, AC, 50/60Hz, max: 0.5A
Output (V <sub>out</sub> )	5 V DC (USB 1x 1A, 1x 2A)
Country Adapters	UK, EU, AU, USA
Operating Temperature	0°C to 40°C
Humidity	10 - 90% RH non-condensing
<b>OLPD Manager™ Software</b>	
Operating System	Windows® 7/8/10 (PC)
Functionality	USB synchronisation with PDS Insight™, associate POA barcodes to physical plant/cables, store details of plant/cables under test
Results Display	Graphical representation of PD levels in the substation, trending graphs, summary tables, PRPD patterns
Report Format	Microsoft Excel
Multiple Languages	Yes
<b>Dimensions</b>	
Size	Handheld: 227 x 122 x 75 mm Carry Case: 310 x 355 x 245 mm
Weight	Handheld: 0.58 kg Kit 1 in Carry Case: 4 kg Kit 2 in Carry Case: 4.5 kg

# Get In Touch

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