HVPD

PDS Insight™2

Identify Partial Discharge in Minutes

IDENTIFY

1 ✓


```
PRPD                    50Hz  40%
POA ID: 02197   Bus section
Peak   33dB                         80
Count    30      /cycle
Activity 930mV   /cycle             40
STS     1306mV   /cycle
                                    360
           Measure
            Home
```

HVPD

PDS Insight™ 2

PDS Insight™ 2

The NEW PDS Insight™ 2 is a portable, On-line Partial Discharge (OLPD) detection unit for mass rapid screening, that gives you the best early warning indicator of electrical insulation failure within your network.

Simple to use, the PDS Insight™ 2 can be placed in the hands of your technicians for the safe, reliable running of electrical assets (3.3 kV and above).

The Phase Resolved Partial Discharge (PRPD) feature in the PDS Insight™ 2 eliminates misleading background noise from the true partial discharge sources, which will help you to avoid in-service failures and costly, unplanned outages.
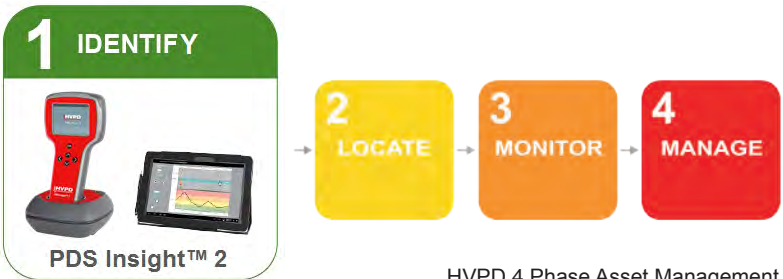
Deployed in phase 1 of our 4-phase asset management approach, Identify, the PDS Insight™ 2 is used to screen large electrical networks to quickly narrow down those assets in the worst condition - to target repairs and maintenance.

As standard, the PDS Insight™ 2 is supplied with a 10.1" Android tablet, running a dedicated On-line Partial Discharge (OLPD) application – the OLPD Manager™ app, which is also available for Windows, for the easy exporting of data and charts to maintenance reports.

The battery-powered unit stores all measurement data on its internal memory, which synchronises via Bluetooth to the OLPD Manager™ app. Both the unit and the app are available in 13 languages.
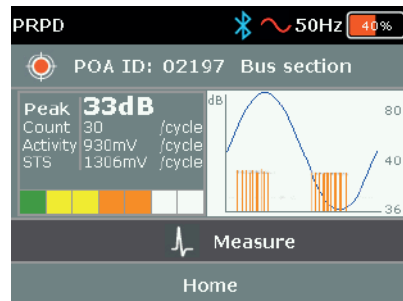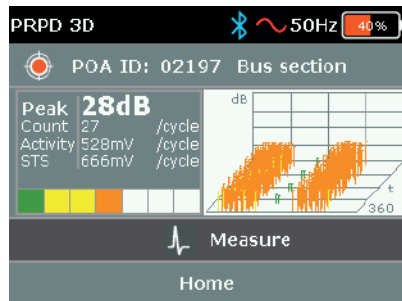
Compatible Sensors:

 TEV

 HFCT

 AA

1 IDENTIFY

PDS Insight™ 2

2 LOCATE → 3 MONITOR → 4 MANAGE

HVPD 4 Phase Asset Management

PHASE RESOLVED PARTIAL DISCHARGE (PRPD) ELIMINATES BACKGROUND NOISE

The PRPD feature on the PDS Insight™ 2 allows the operator to view the partial discharge pulses with reference to the 50 or 60 Hz sine wave in order to distinguish genuine sources of partial discharge from the background noise commonplace in electrical assets.

The PDS Insight™ 2 has a multitude of features which have been designed to support a range of maintenance planning strategies. They include:

Features

- Synchronise with the power supply frequency and generate 2D/3D PRPD patterns.

- Incorporates three OLPD sensors: TEV, HFCT & AA.

- Detects electromagnetic radiation from PD in metal-clad plant (TEV), current impulses from PD in cables and accessories (HFCT), and ultrasonic radiation from PD into air from air-insulated switchgear and other plant (AA).

- Combines PD Level, PD Pulse Count and Cumulative PD Activity measurements across the 50/60Hz cycle.

- An in-built barcode scanner is used with sensor POA barcode labels.

- 10.1" Android™ tablet PC with the OLPD Manager™ asset management application.

- Smart docking station for charging, data download and function checking of the unit.

- Onboard data storage for quick testing and Bluetooth® communication to the Android™ Tablet PC

- Measurements can be downloaded into a CSV file to enable filtering measurements and peak values.

- RPD measurements can be displayed and recalled on the tablet.

- Asset operators and managers with multiple sites and multiple HVPD PDS Insight™ 2 units can back up and share data across all tablets to provide an asset management global view.

- 13 Languages options: English, Chinese, French, German, Polish, Portuguese, Russian, Korean, Spanish, Turkish, Vietnamese, Japanese and Arabic.

Benefits

- Easy-to-use, lightweight and portable handheld test unit.

- The OLPD Manager™ app on the 10.1" Android™ Tablet PC makes it easy to setup a test record and to carry out repeat testing and monitoring.

- Ensures the safe and reliable operation of HV networks, providing an early warning against incipient faults.

- The unit's barcode scanner retrieves sensor location ID from the Point of Attachment (POA) labels automatically.

- Optional accessories include the Outdoor Parabolic Receiver (for detecting corona and surface discharges in outdoor HV switchyards) and the Indoor Acoustic Search Probe (to extend the reach of the unit to detect airborne acoustic activity along the seams/ gaps in MV switchgear.

- Asset operators and managers with multiple sites and multiple HVPD PDS Insight™ units can back up and share data across all tablets to provide a global asset management view.

- All data between the PDS Insight™ handheld and the Android™ tablet is synchronised via Bluetooth®.

OLPD Manager™

Smart docking station

POA barcode scanner

Internal storage

Screen your assets and trend their PD levels over time.

1

Set up Substation with OLPD Manager™ App

2

Scan POA Label to Identify the Asset

3

5 Second Screening per asset

4

Analyse Trends and Report Results

Technical Specification

TEV Sensor

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

HFCT Sensor

Measurement Range (HFCT 100/50, Z_{tr}=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

AA Sensor

Measurement Range	0 – 70 dBµV
Centre Frequency	40 kHz
Resolution	1 dB
Accuracy	±1 dB
Gain stages	1

Phase Resolved PD (PRPD)

Synchronisation Methods	Optical/Mains Field Detector/BNC input (selectable)
PRPD Plot Types	2D & 3D

Hardware

Enclosure	Polycarbonate ABS / TPE
Display	3.5" 320x240 65k colour LCD
Control	5 button membrane keypad
I/O Connections	BNC (HFCT), LEMO (external AA), USB Micro B (charger), 3.5mm Jack (headphones)

Operating Environment

IP Classification	IP 54
Temperature	-20 ºC to +55 ºC
Humidity	0 – 90 % RH non-condensing

Power

Internal Battery	Lithium-ion, 3.7 V, 4.5 Ah
Operating Time	Approx. 8 hours
Charge Time from Empty	Approx. 4 hours

Battery Charger

Input (V_{in})	90 – 264 V, AC, 50/60Hz, max: 0.5A
Output (V_{out})	5 V DC (USB 1x 1A, 1x 2A)
Country Adapters	UK, EU, AU, USA
Operating Temperature	0 ºC to 40 ºC
Humidity	10 – 90 % RH non-condensing

10.1" Android Tablet (minimum specification)

Processor	Quad-core Processor
Display	10.1" LED WXGA (1280x800)
Camera	2 MP
RAM	1 GB
On-board Memory	8 GB
Charging/PC connection	Micro USB B
Communications	Bluetooth®, Wi-Fi (WLAN802.11 b/g/n)
Battery Life	Up to 8 hours

OLPD Manager™ Application

Operating System	Android™ (tablet) and Windows® 7/8/10 (PC)
Functionality	Bluetooth® synchronisation with PDS Insight™ (tablet), USB synchronisation with PDS Insight™ (PC), associate POA barcodes to physical plant/cables, store details of plant/cables under test, store photos of test site alongside measurement and plant
Results Display	Graphical representation of PD levels in the substation, trending graphs, summary tables, PRPD patterns
Report format	Microsoft® Excel®
Multiple Languages	Yes

Our Knowledge is Your Power

Scope of Supply

Optional Accessories