

PDS Insight™

The World's First Partial Discharge Handheld Test Unit with an Asset Management Application – the **OLPD Manager™ Android™ app**



The Next Generation in Handheld OLPD Test Technology



The Next Generation Handheld OLPD Test Unit

HVPD present the **PDS Insight™**, the world's first handheld On-line Partial Discharge (OLPD) test unit to be supplied with a dedicated asset management tablet application – the **OLPD Manager™ app**. This unique, world-leading handheld test technology combines HVPD's knowledge from over 20 years of OLPD test technology development with the flexibility and functionality of the **Android™** operating system and a **10.1" Tablet PC**.

The PDS Insight™ measures **PD Levels**, **PD Pulse Count** and **Cumulative PD Activity** across the 50/60Hz power cycle to enable the severity of any partial discharge activity to be assessed. By combining three (3) types of PD sensor (TEV, HFCT and AA), the unit is suitable for the OLPD testing of most types of in-service medium voltage (MV) cables and plant and OLPD surveying of outdoor high voltage (HV) switchyards. Suitable for OLPD testing of power cables, switchgear, rotating machines and transformers, the handheld unit stores all measurement data on its hard disk that is then synchronised ('synced') via Bluetooth® to the **OLPD Manager™ app** on the supplied tablet 10.1" PC for **analysis**, **benchmarking** and **trending**.



The PDS Insight™ handheld and OLPD Manager™ app (on the 10.1" Android™ tablet PC)



PDS Insight™ detecting PD from Phase L1 of an HFCT sensor installation

Features

- Supplied with a 10.1" Android™ tablet PC with the OLPD Manager™ asset management application. Both devices support several languages.
- 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 (AIS) 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 for automatic repeat testing.
- The unit displays data on a 3.5" colour LCD screen.
- Supplied with BOSE® Acoustic Noise Cancelling Headphones as standard (to listen to airborne acoustic (AA) PD activity in noisy environments).
- Smart Docking station for charging and function check.
- Onboard data storage for quick testing and Bluetooth® communication to the Android™ Tablet PC for post-test data analysis, benchmarking and trending.

Benefits

- Easy-to-use, lightweight and portable.
- The OLPD Manager™ app on the 10.1" Android™ tablet PC makes it easy to setup a test record and is also used to analyse the test data obtained.
- Designed for rapid OLPD screening of medium voltage (MV) and high voltage (HV) assets.
- Ensures the safe and reliable operation of MV/HV networks by providing an 'early warning' against 'incipient' MV/HV insulation failure.
- The unit's barcode scanner retrieves sensor location ID from the POA labels automatically.
- All data between the handheld and the Android™ tablet PC is synchronised ('synced') via Bluetooth®.
- Variations in PD levels are viewed in real-time on the PDS Insight unit's 3.5" colour LCD screen with long-term PD trending in the OLPD Manager™ app.
- Optional accessories include the Outdoor Parabolic Receiver Extension Unit (for detecting corona and surface discharges in outdoor HV switchyards) and the Indoor Acoustic Search Probe (to detect airborne acoustic activity along the seams/gaps in MV AIS).
- First annual calibration is included.



Barcode Scanning of POA label



OLPD Manager™ application



Outdoor OLPD screening

Technical Information

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 – 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 dB μ V
Centre Frequency	40 kHz
Resolution	1 dB
Accuracy	±1 dB
Gain stages	1
Hardware	
Enclosure	Polycarbonate ABS / TPE
Display	3.5" 320x240 65k colour LCD
Control	5 button membrane keypad BNC (HFCT), LEMO (external AA), USB Micro B (charger), 3.5mm Jack (headphones)
I/O Connections	
Operating Environment	
IP Classification	IP 54
Temperature	-20 °C to +50 °C
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 °C to 40 °C
Humidity	10 – 90 % RH non-condensing
10.1" Android™ Tablet PC	
Processor	Powerful Quad-core (1.6 GHz) Processor
Display	10.1" LED Backlight WXGA (1280x800) HD IPS Display
Camera	2 MP Rear Camera & 1.2 MP Front Camera (both with 720p Video Recording)
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 9.5 hours
OLPD Manager™ Application	
Functionality	Bluetooth® synchronisation with PDS Insight™, associate POA barcodes to 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
Report format	Microsoft® Excel®
Bose QuietComfort® 15 Acoustic Noise Cancelling® Headphones	
Battery Life	35 hours on AAA battery (average)
Dimensions	
Size	HANDHELD: 227 mm x 122 mm x 75 mm; CARRY CASE: 310 mm x 355 mm x 245 mm
Weight	HANDHELD: 0.56 kg; FULL KIT IN CARRY CASE: 4.9 kg

Scope of Supply



- HVPD PDS Insight™ Handheld
- Docking Station
- Android™ Tablet with OLPD Manager™
- HFCT 100/50 Sensor
- Bose QuietComfort® 15 Acoustic Noise Cancelling® Headphones
- Holster
- POA Label Pack (100x)
- 2-metre RG223 BNC Cable
- AC Mains Charger & USB A – Micro B Cables
- User Manual
- Hard Shell Carry Case

Optional Accessories



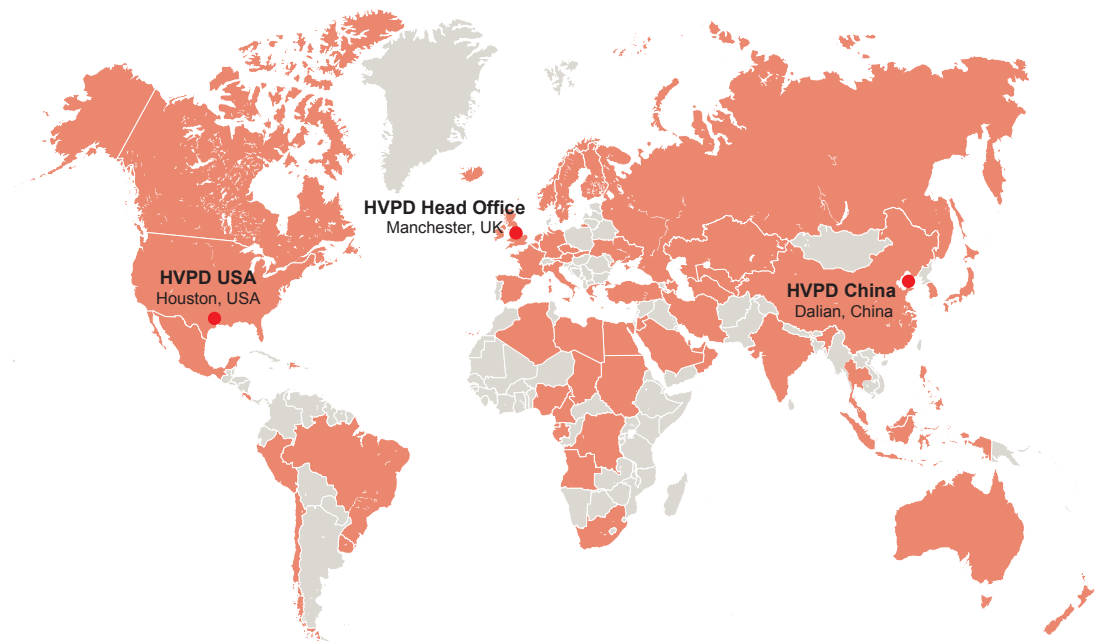
- Indoor Acoustic Probe
- Outdoor Parabolic Receiver and Laser Enhancement Eyewear
- Accessories Carry Case

**Contact for a quotation: sales@hvpd.co.uk
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HVPD are experts in the growing industry of on-line partial discharge (OLPD) monitoring of in-service medium voltage (MV) and high voltage (HV) cables and plant. We offer a complete range of equipment and test services that provide an 'early warning' of deterioration in MV/HV insulation, allowing plant owners to take early corrective action to avoid unplanned outages.

We provide bespoke OLPD test and monitoring solutions to our growing customer base in five (5) main market sectors, oil & gas, renewables, shipping, transmission & distribution and power generation. Over 350 customers in 100 countries, from projects spanning over 20 years, already trust our technology to help avoid unplanned outages, we hope you become one of them.



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