



The PDS Air™

Handheld Partial Discharge (PD) Surveying Tool

****New**** The **PDS Air™** partial discharge surveying tool from HVPD represents the very latest in handheld PD test technology. Incorporating a **digital TEV-dB display** and **external airborne acoustic probes**, the test unit provides the **'first-line of defence'** for the early detection of PD activity in MV cables and plant from 3.3 kV to 45 kV. Rapid, 'look-see' insulation condition testing is possible through the unique combination of three PD measurement technologies: HFCT, TEV and Airborne Acoustic.

The **PDS Air™** handheld test unit meets the requirements of both utility and industrial MV plant owners for a simple, portable, and easy-to-use handheld PD screening device for use by all operational staff in the substation. The unit is recommended for use in Phase 1 of the **HVPD 4-Phase PD Test and Monitoring Solution** which requires **PD pre-screening of 100% of the network**.

Features include:










- Digital TEV sensor measurement with numerical LED display.
- The only handheld PD test unit in the market to combine 3x PD sensor technologies (TEV, Acoustic and HFCT) in one device.
- Measurement of PD in metal-clad switchgear/plant with airborne acoustic sensors and accurate digital TEV-dB measurements.
- Measurement of PD in picocoulombs (pC) in power cables with a split-core HFCT sensor (connected around the cable earth).
- Test times of 3-5 seconds per plant item or cable, enabling large numbers of MV plant items to be scanned for PD quickly and easily, prior to diagnostic PD testing.
- Lightweight & portable device with an easy-to-understand, 7-level, colour-coded PD display.







Optional Indoor Acoustic Probe (PDSIAP) in use with Headphones. Outdoor Parabolic Receiver (PDSOPR) also available.

Standard Scope of Supply

The standard scope of supply of the **PDS Air™** is shown below and includes a split-core HFCT sensor, standard headphones, BNC signal cable, mains battery charger, a soft carry case and an inspection test pad with test labels.

1x	HVPD PDS Air™		1x	HVPD HFCT 100/50 Sensor	
1x	Standard Headphones		1x	AC/DC Mains Battery Charger	
1x	100 kHz High Pass Filter		1x	User Manual	
1x	1 metre RG223 BNC Signal Cable		1x	Inspection Test Pad and POA Labels	
1x	Soft Carry Case				

Optional Extras

1x	PDSIAP - Indoor Acoustic Probe		1x	PDSOPR Outdoor Parabolic Receiver and Laser Enhancement Eyewear	
1x	PDSPHH - Peltor PPE Headphones (PPE-Suitable)		1x	PDSACC Accessories Carry Case	

Application Testing with Accessories



PDS Air™ with Parabolic Acoustic Receiver measuring PD activity in outdoor sealing ends

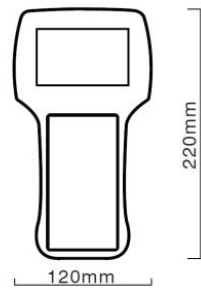
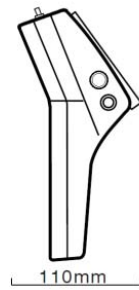


PDS Air™ measuring TEV PD activity in metal-clad air-insulated switchgear

Key Functions



Unit Dimensions



Dimensions:

W: 120 mm
D: 110 mm
H: 220 mm

Weight:

1.26 kg

Power Supply:

Li-ion Battery

How it Works

The **PDS Air™** test unit incorporates **three** individual PD sensors which are designed to pick up different types of PD activity in different types of MV plant, as follows:

CT - Cable PD Circuit – Cable PD activity is measured using the external, split-core, High Frequency Current Transformer (HFCT) sensor attached to the cable's earth straps.

TEV Circuit – Transient Earth Voltage (TEV) PD signals are generated by internal PD in metal-clad switchgear and plant. The unit provides **digital TEV-dB sensor measurement** in the form of numerical LED display measured in 1 dB steps from 15 dB to 50 dB.

AA - Airborne Acoustic Circuit – Acoustic PD signals are generated by PD in air and can be detected using the unit's airborne acoustic sensor with sound demodulator and standard headphones. Optional accessories enhance both the flexibility and range of detection of these airborne discharges. These include an **Indoor Acoustic Probe** (PDSIAP), an **Outdoor Parabolic Receiver** (PDSOPR) and **Peltor Headphones** (PDSPHP) which are suitable for use with PPE hard-hats.

The outputs of these PD sensors are displayed on 3x colour-coded universal LED scales. In addition the PDS Air™ unit has a digital TEV-dB numerical display from 15 dB to 50 dB.

The Guideline PD Levels vs. Plant Condition / Action for each LED level are shown opposite and below.

LED 1	Green	(Plant OK)
LED 2 & 3	Yellow	(Moderate PD - Monitor)
LED 4 & 5	Orange	(Moderate to High PD - Investigate Source of PD)
LED 6 & 7	Red	(High PD – Diagnostic Test, Locate & Restrict Access)

On-Line Partial Discharge Surveying System

PD Level Guide:

	CT	AA	TEV
●	300 pC	8 dB	15 dB
●	600 pC	12 dB	20 dB
●	1200 pC	15 dB	25 dB
●	3000 pC	19 dB	30 dB
●	7800 pC	22 dB	35 dB
●	20000 pC	26 dB	40 dB
●	30000 pC	30 dB	45 dB

PD Level Indication Key

Group Exporter:
Multi-Tek International
Email: mti@multitekintl.com