

PD Detector

On-line PD Detection of HV Assets



PD Detection

Switchgear

Partial Discharge activity inside metal clad high voltage plant induces small voltage impulses called Transient Earth Voltages on the surface of the metal panels. TEVs travel around the surface to the outside of the switchgear, where they can be picked up externally using the PD Detector.

Defects on the surface of high voltage insulators are prone to a phenomenon known as surface tracking. Tracking causes carbon deposits that build up over time, ultimately leading to flashover and insulation failure. The PD Detector is highly sensitive to the ultrasonic emissions produced by tracking and enable the onset to be detected before insulation failure.



The Benefits

- **Advanced Noise Rejection** – System detects PD in higher noise environments, reducing the possibility false positives
- **PRPD** – PRPD display allows user to distinguish between PD and Noise
- **Rapidly survey whole substation** – detects MV and HV problems before developing into tangible failure risks

Compatible Sensors & Asset Types

Sensors



AA



CC-TEV

Assets



Switchgear



Technical Specification

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PD Detector kit contains

- PD Detector
- Headphones
- Function Tester
- Mains Charger
- USB Charger
- Hard wearing PELI™ case

PD Detector

TEV Measurements

Measurement Range	0 to 80dBmV
Measurement Bandwidth	3 to 200MHz (with FM Bandstop)
Resolution	1dB (Accuracy ±1dB)
Noise Rejection	Yes, with PRPD

Ultrasonic Measurements

Measurement Range	-6dBµV to + 68dBµV
Resolution	1 dB (Accuracy ±1 dB)
Transducer Sensitivity	-65dB (0dB = 1volt/µbar RMS SPL)
Transducer Centre Frequency	40 kHz

Hardware

Enclosure	Injection moulded plastic case
Control	Membrane keypad
Connectors	Power, Headphones and optional sensors
Display	OLED with level LEDs, dB, PRPD, Noise

Operating Environment

Operating Temperature	0°C to 60°C
Humidity	0 - 95% RH non-condensing
IP Rating	54

Dimensions

Unit Size	190 x 90 x 55 mm
Unit Weight	210 g
Kit Size	295 x 340 x 145 mm
Kit Weight	2.9 kg

Power

Internal Battery	Lithium Ion, 3.75V, 2.2Ah, 8.25Wh
Operating Time Approx.	8 hours

Battery Charger

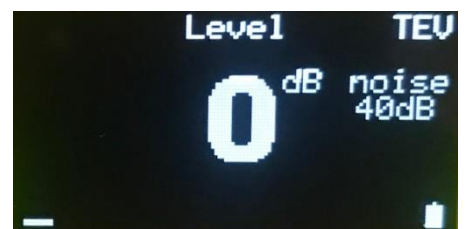
Charging Temperature	0°C to 45°C
Rated Voltage	100 to 250 VAC, 5V, 3A
Frequency	47 to 63Hz
Country Adapters	UK, EU, Australia, USA
Charge time	3 hours

Compliance	CE-compliant in accordance with EMC Directive (2014/30/EU)
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Designed and manufactured in the United Kingdom



Level mode - PD



Level mode – Noise only



PRPD mode - TEV

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