PD-SGS

Handheld Switchgear PD Detector

About the PD-SGS

PD-SGS has the following key features:

- Measurement of TEV signals generated by internal PD
- Ultrasonic detection of surface PD activity
- Integrated Noise Detection Algorithm helps avoid 'False Positives'
- Level Mode and Trend Mode
- Audible output through headphones or built in speaker

TEV - PD Detection

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-SGS detector.

AE - PD Detection

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-SGS is highly sensitive to the ultrasonic emissions produced by tracking and enable the on-set to be detected before insulation failure.

The PD-SGS is a dual transducer PD detector for Switchgear. The instrument detects TEV signals generated by internal discharge as well as acoustic discharge generated by surface tracking or corona.

Advantages of the PD-SGS

- **Rapidly survey whole substation** – detects MV and HV problems before they occur
- **Personnel Safety Device** – ensure the substation is clear of PD before conducting work
- **Hear the PD** – only instrument available that allows the user to hear both ultrasonic and TEV PD activity
- **Ergonomic and compact design** – fits in the user's pocket and is easy to use
- **Long lasting battery** – allowing a whole day of testing without requiring a recharge

What's in the box?

- PD-SGS
- Headphones
- Mains charger
- Function Tester
- USB/Car Charger
- Hard wearing PELI™ case

Detailed Specifications

1. TEV Measurements
    - Sensor — Capacitive
    - Measurement Range — 0 to 80 dBmV
    - Resolution — 1 dB
    - Accuracy — ±1 dB
2. Ultrasonic Measurements
    - Measurement Range — -6dBuV to + 70dBµV
    - Resolution — 1 dB
    - Accuracy — ±1 dB
    - Transducer Sensitivity — -65dB (0dB = 1volt/µbar RMS SPL)
    - Transducer centre frequency — 40 kHz
3. Hardware
    - Enclosure — Injection moulded plastic case
    - Screen — OLED with level LEDs
    - Control — Membrane keypad
    - Connectors — Power, Headphones and External Acoustic Sensor
4. Environmental
    - Operating Temp — -5°C to 55°C
    - Humidity — 0 to 90% RH non-condensing
    - IP Rating — 54
5. Dimensions
    - Size — 190 x 90 x 65
    - Weight — 300g
6. Power
    - Internal Battery — Lithium Ion, 3.75V, 2.2Ah
    - Operating Time — Approx. 12 hours
7. Battery Charger
    - Rated Voltage — 90 to 264 V AC, 5V, 2.6A
    - Frequency — 47 to 63Hz
    - Charge time — 2 hours