



PD-SGS

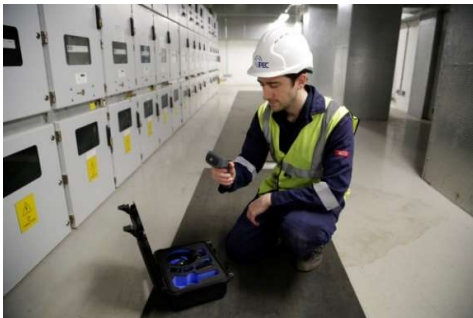
Handheld PD Detector for Switchgear



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.

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.

Ultrasonic 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 onset to be detected before insulation failure.



The Benefits

- **Rapid 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 occur
- **Long lasting battery** – allowing a whole day of testing without requiring a recharge



Technical Specification

PD-SGS

TEV Measurements

| | |
|-------------------|--------------|
| Sensor | Capacitive |
| Measurement Range | 0 to 80 dBmV |
| Resolution | 1 dB |
| Accuracy | ±1 dB |
| Noise Rejection | Yes |

Ultrasonic Measurements

| | |
|-----------------------------|----------------------------------|
| Measurement Range | -6dBμV to + 70dBμV |
| 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 External Acoustic Sensor |
| Display | OLED with level LEDs |

Operating Environment

| | |
|-----------------------|---------------------------|
| Operating Temperature | -20°C to 60°C |
| Humidity | 0 - 95% RH non-condensing |
| IP Rating | 54 |

Dimensions

| | |
|-------------|--------------------|
| Unit Size | 190 x 90 x 55 mm |
| Unit Weight | 220 g |
| Kit Size | 295 x 340 x 145 mm |
| Kit Weight | 2.8 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 |

| | |
|----------------|---|
| Safety and EMC | CE-compliant in accordance with Low Voltage Directive (2014/35/EU) and EMC Directive (2014/30/EU) |
|----------------|---|

Designed and manufactured in the United Kingdom

www.ipec.co.uk



The PD-SGS kit contains

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

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