# PD Alarm
## Permanent Monitoring for Switchgear

**PD Alarm** is an asset mounted device for indicating the presence of partial discharge in high voltage switchgear, ring main units (RMUs) and transformers. Designed for use in small substations, the instrument can activate local and remote alarms in addition to local indication.

The PD Alarm is built into a tough case that magnetically mounts to the RMU. Installation is very quick and simple with only a power connection required to get the system operational.

## Key Features

- Display – Ultrasonic and TEV level displayed in dB
- Alarms – Current 'live' alarms and historical alarms
- External TEV – Measurement of electrical transients generated by internal PD
- Ultrasonic detection – 3 independent ultrasonic channels detecting surface PD
- Integrated Noise Detection – Algorithm helps avoid 'False Alarms'
- Simple to install – No wiring required between PD detector and central hub
- Remote Data Analysis – the PD Alarm's optional tablet software allows for data analysis on the move
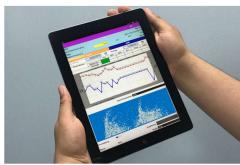
## PD Monitoring

Alarms can be configured to operate either locally with SCADA or remotely using an optional integrated modem.

The system incorporates algorithms that distinguish noise from real PD, significantly reducing the likelihood of getting false alarms. The status and PD levels are displayed on a bright OLED display at the front of the unit.

## The Benefits

- **Avoid power outages** – Early warning about defects that can lead to failure
- **Cost Effective –** Designed for larger scale roll out across distributed assets
- **Failure Prevention –** Implement as part of a Condition Based Maintenance program

# Technical Specification

## PD Alarm

| Data Acquisition and Analysis | |
|---|---|
| Number of Channels | 4 |
| Signal Sampling | 320k Samples/sec, 10 bit |
| PD Analysis | Automatic |
| Reporting | Website or Standalone |

| TEV Measurements | |
|---|---|
| Sensor | Capacitive |
| Measurement Range | 0 to 80 dBmV |
| Resolution | 1 dB |
| Accuracy | ±1 dB |
| Noise Rejection | Yes, with PRPD |

| Ultrasonic Measurements | |
|---|---|
| Number of Channels | 3 |
| 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 | Robust ABS case |
| Control | Membrane keypad |
| Connectors | Power, SCADA, 3x Ultrasonic, TEV |
| Display | OLED with level LEDs |
| Network | 2/3G, WiFi, SCADA |

| Operating Environment | |
|---|---|
| Temperature | -20°C to 60°C |
| Humidity | ≤90% RH non-condensing |
| IP Rating | IP 54 Standard |
| | IP 68 Optional |

| Dimensions | |
|---|---|
| Size | 210 x 190 x 65 mm |
| Weight | 670 g |

| Power | |
|---|---|
| Rated Voltage | 100 to 250 VAC |
| Frequency | 47 to 63Hz |
| Internal Back-up Battery | Lithium Ion, 3.7V, 6.9Ah, 35.5Wh |
| Back-up Operating Time | 8 hours using Default Settings |
| | |
| 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



**The PD Alarm system contains**

PD Alarm

AA Ultrasonic PD Sensors

CC-TEV Sensors

Aerial

Cable Set