

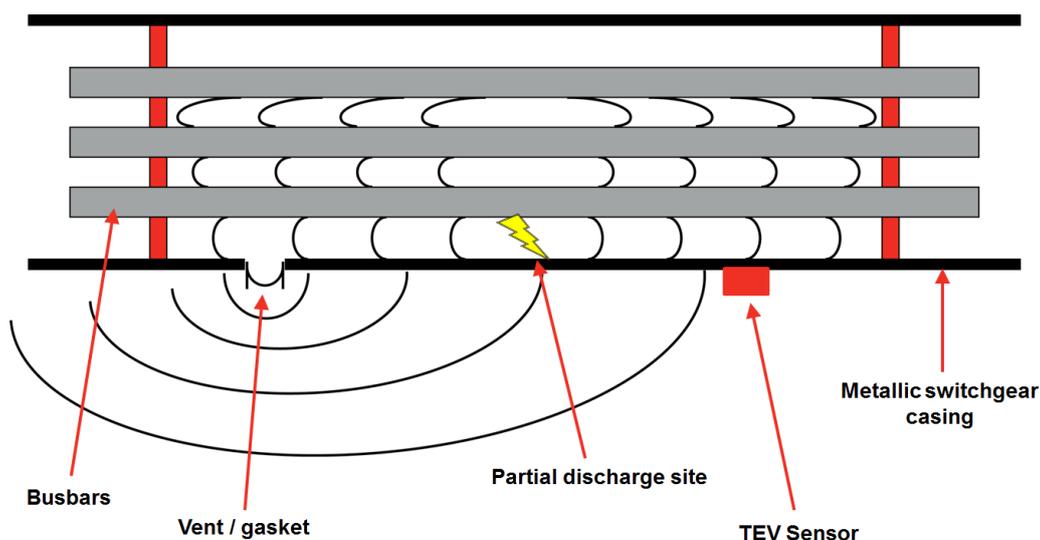


The HVPD TEV sensor is a small-size; electromagnetic sensor which can detect the high frequency radiation that is coupled onto earthed metal surfaces from 'local' partial discharge (PD) within switchgear, bushings and other plant.

The TEV sensor can be either magnetically attached or bolted to the outer surface of metal-clad switchgear, typically on cable boxes or next to cable terminations.

The sensor has a wideband frequency response to detect 'local' PD pulses in the range of 1 MHz to 100 MHz. When local PD occurs within plant, high frequency RF energy is emitted from the PD site. When the PD is within metal-clad switchgear or cable boxes the RF radiation is induced onto the inner metal surfaces of the switchgear housing, this energy will emerge onto the outer of the metal-clad housing where there are gaps (e.g. joints, seams, gaskets, vents etc.). These generally oscillatory signals are known as transient earth voltages and are a good indicator of 'local' PD.

Detection of these pulses can also be used for localisation of the PD site using Time-of-Flight (TOF) measurements when 2 or more sensors are used in conjunction. This principle is employed by the HVPD Kronos™ Monitor to generate long-term precedence measurements of 'local' PD signals, helping to locate PD within plant. The HVPD Longshot™ Diagnostic PD Spot Tester also uses this principle to identify the source of PD.

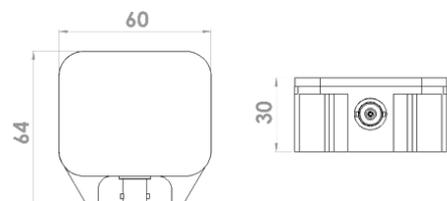




## Key Features

- Wideband frequency detection range from 1 MHz to 100 MHz.
- Suitable for PD detection in MV and HV switchgear, bushings and other plant.
- No outage required for installation, simply attach to the earthed surface of in-service plant.\*
- For use with either portable PD test units or permanent PD monitoring systems.

\* Permanent installations inside HV enclosures may require outages

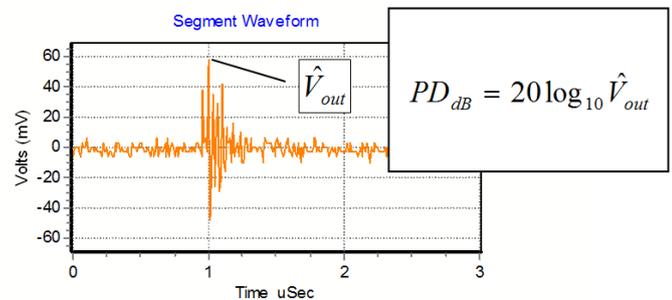
Technical Specification		Unit Dimensions	
Frequency Response	1 MHz – 100 MHz	Width	60 mm
Typical Risetime Response	> 5 ns	Depth	64 mm
Equivalent Capacitance	~ 150 pF	Height	30 mm
Conductor Material	Brass	Weight	0.12 kg
Material/Finish	HDPE Red Finish		
Sensor Head Dimensions	60 x 64 x 30 mm		
Output Connector	BNC Female		
Mounting	Permanent Magnets and/or Bracket		

Each TEV sensor supplied by HVPD is tested and calibrated before delivery to the customer.

The plot opposite shows a typical local PD waveform. It can be noted that the sensor is required to be very responsive to detect the high frequency pulse. (1 MHz to 100 MHz). This is essential for the measurement of PD in a wide range of switchgear, bushings and other plant.

Calibrated TEV sensors can be used to make on-line measurements of PD in decibels (dB) with HVPD's range of PD test and monitoring systems including the HVPD Longshot™ PD Diagnostic Spot-Tester.

## Local PD Magnitude Measurement



Typical TEV Waveform