

The SMART-TB3™ is a world first, on-line partial discharge (OLPD) sensor for holistic plant condition monitoring of medium and high voltage (MV and HV) assets, including; rotating machines (direct or VSD-fed), switchgear and transformers.

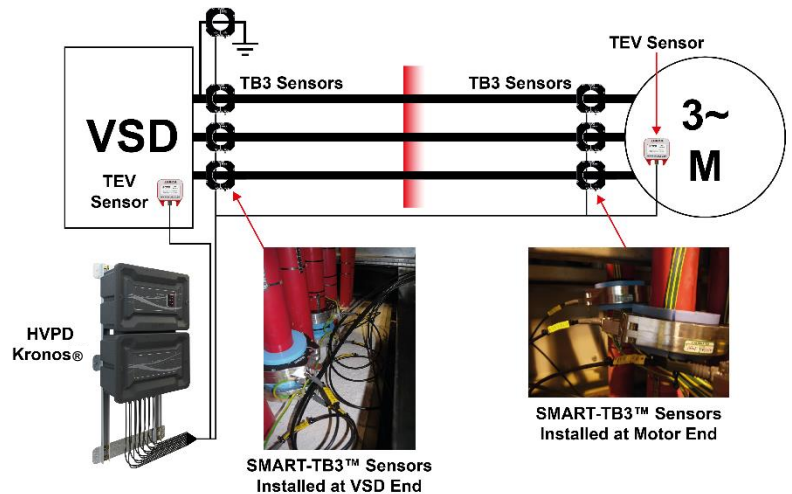
The SMART-TB3™ utilises the detection capability of the HFCT sensor to detect high frequency PD and incorporates lower frequency bands for detection of power frequency (50/60 Hz), power quality (PQ), harmonics and current signature analysis (CSA).

The Low Frequency winding also provides a synchronisation signal for phase-resolved PD measurements.

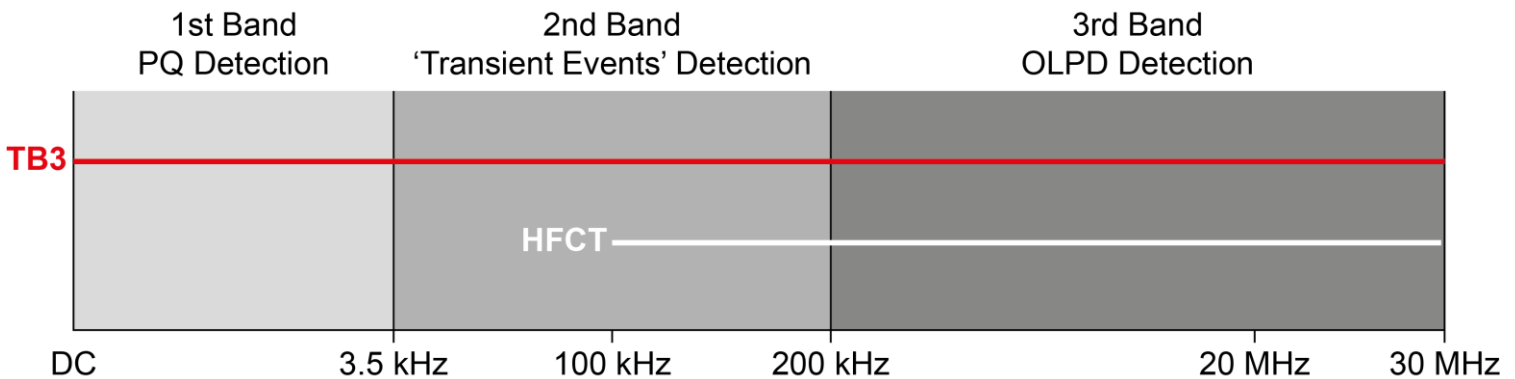
Features and Benefits

- Wide band electrical signal detection:
 - Low Frequency (LF) output: CSA, PQ and transient electrical events
 - High Frequency (HF) output for PD
- Suitable for attachment to cables rated up to 800 A.
- Voltage output is harmonised with industry standards allowing integration with existing PQ monitoring systems.
- For use with either portable OLPD test units or permanent OLPD monitoring systems.

Example SMART-TB3™ Sensor Installation for VSD Machines



SMART-TB3™ Sensor Bandwidth

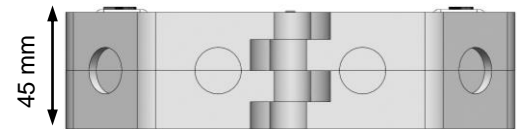
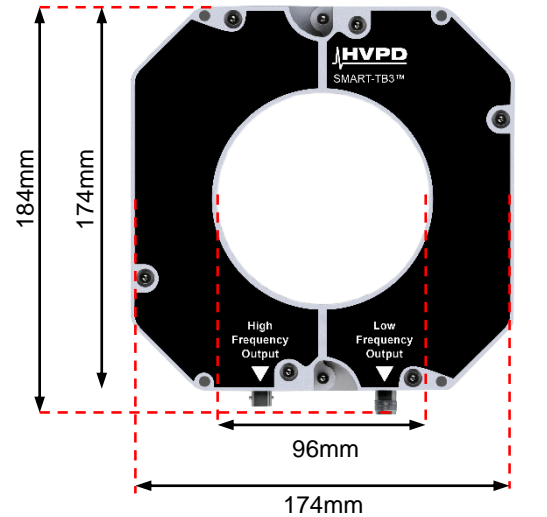




HVPD Smart-TB3™ Wideband Sensor

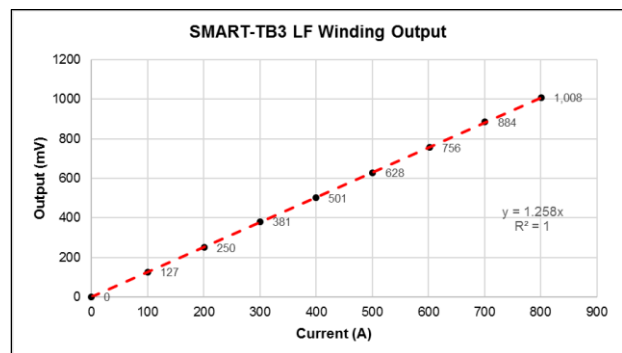
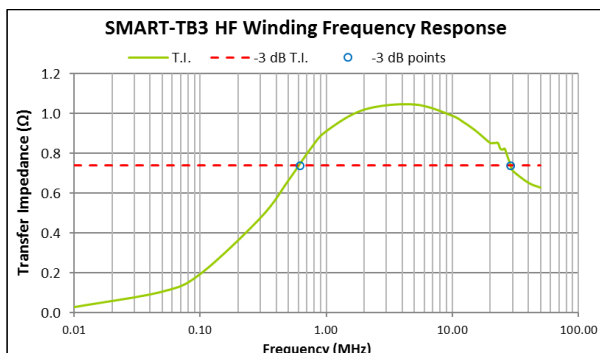
Part Code: SMARTTB3

Technical Specification	LF Output	HF Output	Dimensions
Transfer Impedance, T_r	N/A	$1 \Omega \pm 5\%$	
Bandwidth	0 Hz – 200 kHz (with integrated filter)	0.5 – 25 MHz (typical)	
Voltage output	1 V _{rms} @ 800 A	N/A	
Droop Time	N/A	0.9 μ s \pm 10%	
Typical Rise Time Response	N/A	< 15 ns	
Recommended Load Impedance	50 Ω		
Output Connector	TNC Female	BNC Female	
Internal Diameter	96 mm		
External Dimension	184 x 174 mm		
Material/Finish	Aluminium		
Max 50 Hz Current (before saturation)	800 A		
Weight	1.9 kg		
Point of Attachment	Cable		



The connection for the sensor is over the core of the cable with the earth looped back through the centre of the sensor.

Wideband Frequency Response of the SMART-TB3™ Sensor



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