

ICMseries Accessories: Sensors



SFX1



SFX2/50



AS75I

Ultrasonic PD Sensors

The AS75I and AS150I are active sensors with very high sensitivity for measurements on GIS, transformer tanks, or cable joints. They come with a built-in 40 dB preamplifier and can be connected to the RPA1D, RPA1F, RPA1G or directly to the AIAcompact, ICMsystem, ICMcompact or ICMmonitor.

The SFX1 is suited to secure the acoustic sensors on a GIS. The magnetic sensor fixtures SFX2 are for temporarily mounting of the acoustic sensors on a transformer tank.

WS Window Sensors

External window sensors are used to conveniently equip older GIS with UHF monitoring. Power Diagnostix offers such window sensors of different sizes to fit the inspection windows of older GIS. Instead of embedded sensors, additionally, modified earthing switches can be used. In case of non-shielded support insulator disks a proven method is to apply ring antennas to capture the UHF signals at the flanges.



WS window sensors in different sizes



EFS1 sensor

EFS1 Sensor

The external flange sensor EFS1 is a wide-band UHF antenna for PD detection on GIS and GIL. Since it is wrapped around the unshielded flange connection, the flange dimensions are required on order. With the N-connector it can be directly jointed with a UHF preamplifier like the UHF1, UHF2 or FCU2.



UHF Transformer Sensors

UHF transformer sensors can be used to detect internal PD on power transformer in a frequency range between 300 MHz and 1 GHz. The UHF



Valve sensor TVS2

frequency range can be chosen under difficult on-site conditions, such as high impact of the measurements due to corona discharges or other disturbances within the typical HF range (100 kHz to 10 MHz). UHF sensors are suitable for retrofitting as well as for pre-

installation. The sensitivity can be proven by injecting an impulse generator signal in the UHF range into the system. UHF PD signals can be used for PD pattern analysis as well as for

triggering acoustic measurement systems, like the FOS4, for instance. Power Diagnostix provides the TFS1 for valve flanges and the TVS2 for oil valves. Both sensors can be modified

and designed in accordance of special customer specifications.



Flange sensor TFS1

DFS Differential Foil Sensor

Besides the embedded coaxial sensor of cable accessories, external sensors can be applied to joints and terminations. Especially on cross-bonding joints differential foil sensors serve to capture partial discharge signals in elevated frequencies. Such foil sensors can be permanently installed for monitoring or temporary applied for survey type measurements.



Foil sensor DFS1



The versatility of the Power Diagnostix line of PD detection equipment is due in large part to the range of accessories available for the ICMseries instruments. Each ICMseries data acquisition unit can be combined with different accessories to suit specific applications.