



*Providing
more information for
better decisions*

RADIO FREQUENCY CURRENT TRANSFORMERS

(RFCT) AND GROUND PD CURRENT SENSOR (GPCS)

*Improving Plant and
Equipment Reliability
through Innovation
and Service*



Radio Frequency Current Transformers (RFCT) and Ground PD Current Sensor (GPCS) are installed in the ground circuits of a variety of electrical equipment to measure Partial Discharges (PD). The RFCT is made from a special ferrite core and winding which is molded with a durable epoxy. Typically RFCTs are installed around cable termination shield connections, neutral ground wires and external core ground connections on large power transformers and isolated surge capacitors typically found on large motors.

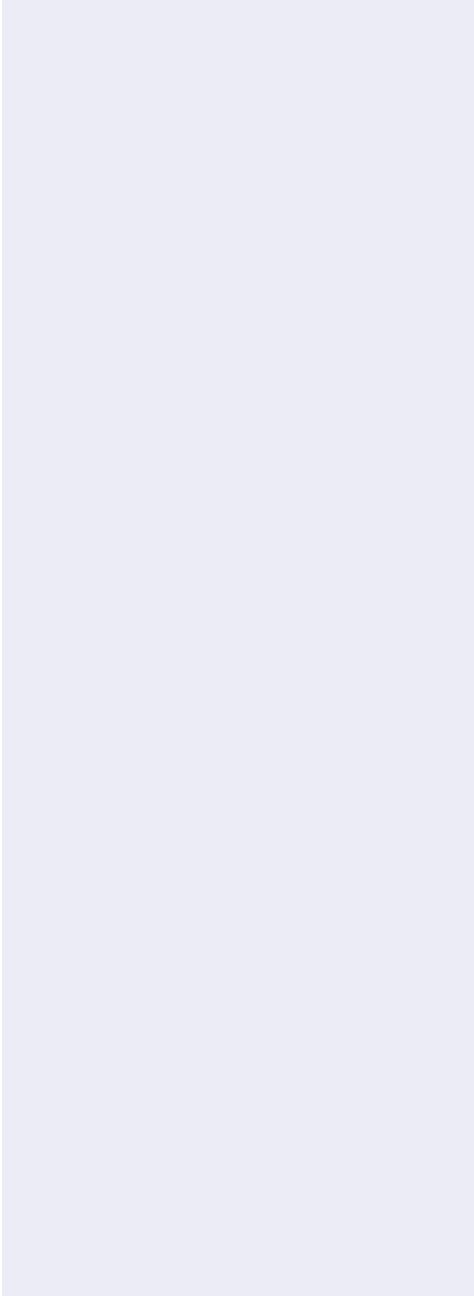
The frequency response of an RFCT is much different than that of a coupling capacitor; therefore the

“Zone of Coverage” is much larger. However, since it is installed in the ground circuits, it may be subject to much higher noise levels.

On cable terminations, the grounded termination shield is passed through the RFCT, prior to the connection to ground. This will allow one to “look” down the cable. How far one can “see” down the cable will depend on the condition of the cable shield, type of shield and the type of cable insulation. Experience has shown that one can “see” further down an XLPE cable than EPR cable. Statistics indicate that at least 90% of cable failures are at terminations and splices.

TYPE GPCS

The GPCS is typically used on Insulated high voltage cable terminations, ungrounded cable shield terminations and across the insulated junction point between a large generator or generator step up transformer and the isolated phase bus duct. The GPCS will block the power frequency signals

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and only allow the high frequency signals caused by partial discharge to pass through. These sensors can be permanently mounted or installed on a temporary basis.