Real Breakdown Monitoring RBM:

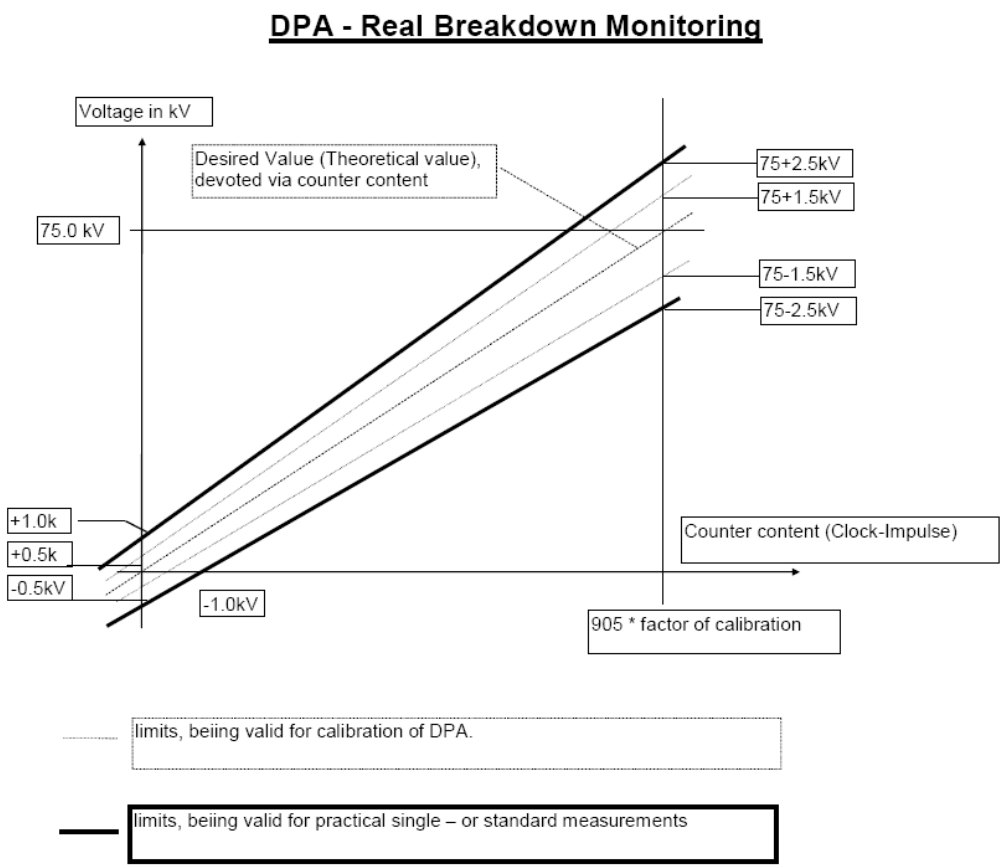
To explain the RBM error issue, it is necessary to know that this error is directly depending on the Tan Delta value of the insulation oil.

The measurement sequence of the Real Breakdown Monitoring controls the voltage at the HV-transformer output with the voltage being present at the test vessel. As every type and condition of insulation oil is aware of an amount of conductivity, a bandwidth is determined. In case of a lower quality oil the real amount of resistance (specific resistance of the oil) is too low. The current that is flowing because of the low resistance (high quality oil in the region of Terra Ohm) becomes too high and the HV-transformer of the DPA75C or DTA 100 C is no longer able to deliver enough energy, whereas the voltage drops under the defined value of the bandwidth and thus affecting a RBM error is obtained. – The value of voltage runs out of range.

In such a case, the tested oil sample is not (or even no more) usable for high quality insulation purposes. Please consider the handling instructions of the oil sample itself, because insulation oil requires high attention.

To confirm the characteristic, it is helpful to perform the Tan Delta loss factor measurement and the resistivity measurement by using a DTL (dielectric loss factor and resistivity measuring instrument).

The below graph shows the band width of acceptable voltages up to 75kV and is therefore relevant for both
instruments
DPA75C and
DTA 100C.



Explanation RBM in co