Abstract

This letter describes the development of a rogowski coil current and on-chip temperature sensor for evaluating the sag of conductors in high voltage transmission line. A rogowski coil has an air core instead of an iron core. The measurements show excellent linearity with practical no saturation problems. In addition, the rogowski rate highly for electrical isolation from the bus bar, and is lightweight with low material cost. The uses reliably proven universal serial bus technology to energize the electronic circuitry. The data collected together with sag information will provide support for the development of an algorithm for estimation conductor sag values.

References

- Ibrahim A. "Performance improvement of slow wave rogowski coils for high
impulse current measurement”, IEEE Journal.
- “Artificial contamination tests on hv insulators to be used on ac systems”,
  IEC, 1991, publication 507.
- “Hybrid optoelectronic sensor for current and temperature monitoring overhead
- D. A. Ward, J. La T. Exon. “using rogowski coil for transient current
  measurements”;