

Development and Implementation of Current Tee for AC High Current Calibration

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Abstract: Thermal current converters or thermal transfer standard with AC–DC current shunts act as the reference standards for accurate and precise measurements of low frequency current in the frequency range from 40 Hz to 10 kHz. At present CSIR-NPL, India has the AC–DC current transfer difference (dx) calibration facility upto 20 A. To extend our AC current calibration range from 20 A to 100 A, a current Tee for AC high current using LC connectors has been indigenously designed and developed. This paper presents the development of current Tee for AC high current calibration. The calibration results for assigning 'dx' at 30 A current shunt with respect to 20 A are shown and the same measurement technique has been used to extend the current range up to 100 A.

Keywords: AC–DC current transfer; AC–DC current shunt; High current thermal transfer calibration