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- (54) Title: AN ELECTRIC METER, AN ELECTRIC METER SYSTEM AND A METHOD OF PROVIDING BRANCH-LEVEL READINGS FOR A POWER DISTRIBUTION NETWORK

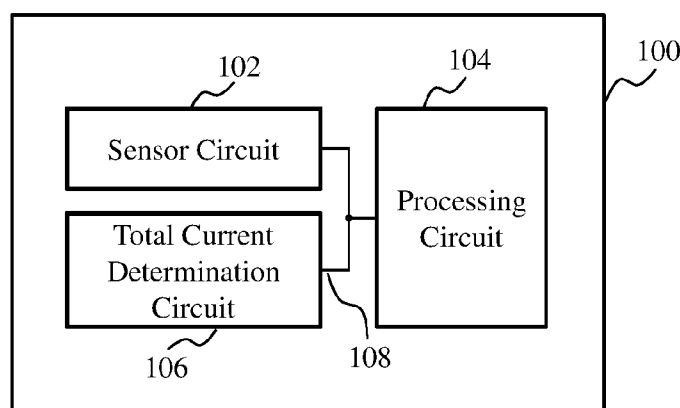


FIG. 1

(57) Abstract: According to various embodiments, there is provided an electric meter including a sensor circuit configured to provide a plurality of instantaneous magnetic field measurements; a processing circuit configured to generate a time-series of magnetic field vectors, each magnetic field vector of the time-series of magnetic field vectors including the plurality of instantaneous magnetic field measurements; and a total current determination circuit configured to determine a total current, wherein the total current is a sum of currents of each branch of a plurality of branches of a power distribution network; wherein the processing circuit is further configured to compute a de-mixing matrix based on the determined total current and the time-series of magnetic field vectors, and further configured to linear transform each magnetic field vector using the de-mixing matrix to determine a current of each branch.

