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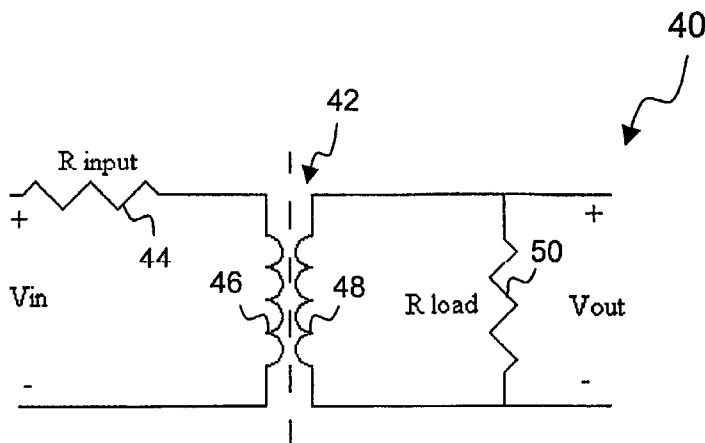
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(54) Title: SYSTEM AND METHOD FOR ACQUIRING VOLTAGES AND MEASURING VOLTAGE INTO AN ELECTRICAL
SERVICE USING A NON-ACTIVE CURRENT TRANSFORMER



(57) Abstract: A voltage acquisition circuit for sensing input voltage signals in each phase of an electrical service includes a non-active current transformer configuration that is operable over a wide input voltage range. The current transformer configuration includes primary and secondary windings, an input resistor and a burden resistor across which an output voltage is defined. The input resistor may be relatively large, such as on the order of about one M Ω and the transformer core may have a nanocrystalline core characterized by predictable magnetic properties versus varied transformer flux levels. This operational predictability facilitates phase compensation via digital filtering or otherwise for any phase shift induced between input and output voltages of the current transformer. The subject voltage

acquisition circuits may be provided to sense each phase of a single-phase or polyphase electrical service, whereby the sensed voltages are subsequently provided to additional components of an electricity meter, such as a power supply or other processing components, including an A/D converter and microprocessor for determining energy quantities.

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