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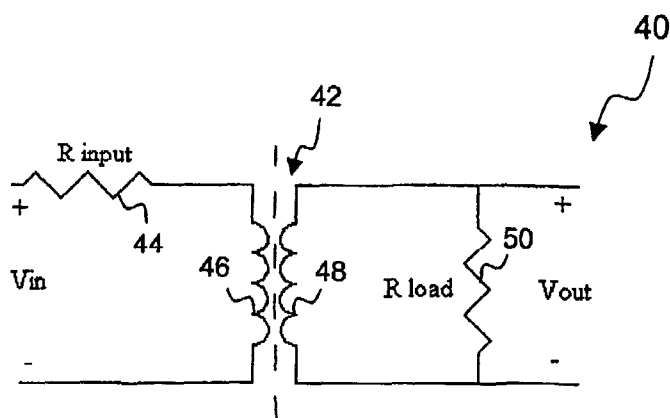
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(54) Title: SYSTEM AND METHOD FOR ACQUIRING VOLTAGES AND MEASURING VOLTAGE INTO AN ELECTRICAL
SERVICE USING A NON-ACTIVE CURRENT TRANSFORMER



(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 MΩ 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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