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(71) Applicant *(for TJ only)*: FRIEDMAN, Mark, M. [US/IL]; 1 Alharizi, 43406 Raanana (IL).

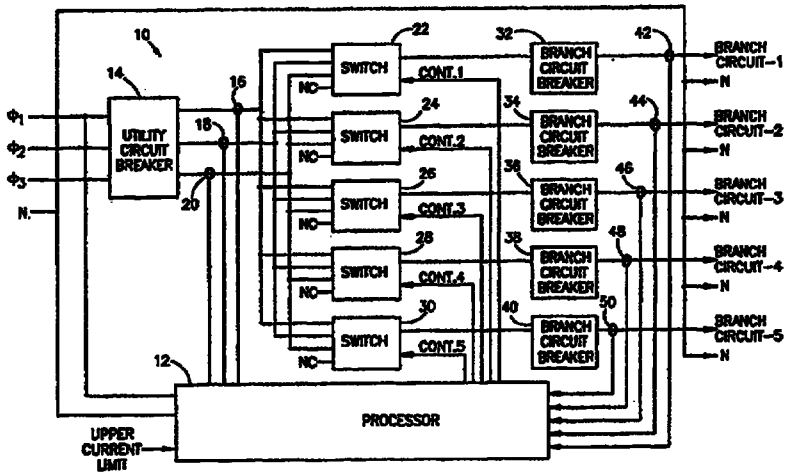
(71)(72) Applicant and Inventor: YAIR, David [IL/IL]; 6 Ankor, 47229 Ramat Hasharon (IL).

(74) Common Representative: FRIEDMAN, Mark, M.; c/o Robert Sheinbein, 2940 Birchtree Lane, Silver Spring, MD 20906 (US).

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(54) Title: APPARATUS FOR AND METHOD OF EVENLY DISTRIBUTING AN ELECTRICAL LOAD ACROSS A THREE-PHASE POWER DISTRIBUTION NETWORK



(57) Abstract

An apparatus for and method of evenly distributing an electrical load (BRANCH CIRCUIT 1-5) across a three-phase power distribution network. The current in each incoming phase and in each branch circuit is measured by a plurality of current sensors (16-20 and 42-50). The output of the current sensors (16-20 and 42-50) are monitored by a processor (12). Associated with each branch circuit (BRANCH CIRCUIT 1-5) is a multi-pole switch (22-30) and a conventional circuit breaker (14). Each switch (22-30) is able to connect its corresponding branch circuit (BRANCH CIRCUIT 1-5) to any incoming phase or to disconnect the branch circuit (BRANCH CIRCUIT 1-5) from all three phases. The processor (12) periodically monitors the current flowing through each incoming phase and based on branch circuit load conditions, reprograms the switches (22-30) to keep the branch circuit loads (BRANCH CIRCUIT 1-5) evenly distributed across all three incoming phases. In another embodiment, a summing circuit (52) combines the current capacities of all three incoming phases into a single summed output. This output is subsequently rectified (54) and used to generate (56) a single phase AC voltage which feeds all branch circuits (BRANCH CIRCUIT 1-5) in the system.