



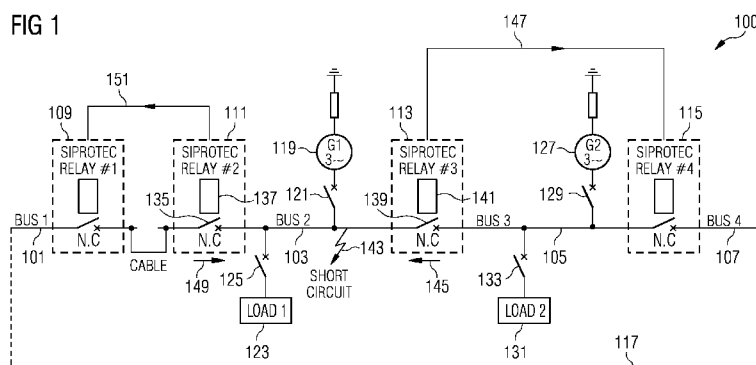
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 SIEMENS AKTIENGESELLSCHAFT [DE/DE]; Witel-
 selsbacherplatz 2, 80333 München (DE).</p> <p>(72) Inventor; and</p> <p>(75) Inventor/Applicant (<i>for US only</i>): HOEVEN, Thomas
 [NO/NO]; Arnulf Oeverlandsvei 154, N-0763 Oslo (NO).</p> <p>(74) Common Representative: SIEMENS AKTIENGE-
 SELLSCHAFT; Postfach 22 16 34, 80506 München
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(54) Title: A PROTECTION SYSTEM FOR ELECTRICAL POWER DISTRIBUTION SYSTEM USING DIRECTIONAL CURRENT DETECTION AND LOGIC WITHIN PROTECTIVE RELAYS

FIG 1



(57) Abstract: It is described a power distribution system for a dynamically positioned vessel, the power distribution system comprising: a plurality of busses (101,103,105,107) comprising a first bus (103) to which a load (123) is connectable; a plurality of switches (109,111,113,115) comprising a first switch (111) and a second switch (113), wherein the plurality of busses is connected via the plurality of switches in an interjacent manner to form a ring (117), the first bus is connected in between the first switch and the second switch, and the power distribution system is configured to open the first switch and concurrently open the second switch, if a first current (149) flowing via the first switch in a direction towards the first bus is above a predetermined current threshold for longer than a predetermined time duration and a second current (143) flowing via the second switch in a direction towards the first bus is above the predetermined current threshold for longer than the predetermined time duration, thereby disconnecting the first bus from the ring while all other buses remain connected together. Further a method of power distribution is provided and a vessel.