Title (en)

CIRCUIT ARRANGEMENT FOR REDUCING TRANSIENTS CAUSED BY AN ELECTROMECHANICAL SWITCH WITH OVERCURRENT PROTECTION

Title (de)

SCHALTUNGSANORDNUNG ZUR VERRINGERUNG DER TRANSCIENTEN, DIE VON EINEM ELEKTROMECHANISCHEN SCHALTER MIT ÜBERTSTROMSCHUTZ VERURSACHT WERDEN

Title (fr)

AMENAGEMENT D'UN CIRCUIT POUR LA REDUCTION DES COURANTS TRANSITOIRES CAUSES PAR UN COMMUTATEUR ELECTROMECANIQUE AU MOYEN D'UNE PROTECTION A SURINTENSITE

Publication

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Application

EP 97929330 A 19970703

Priority

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- FI 962973 A 19960725

Abstract (en)

[origin: WO9805050A1] When voltage is connected to load by using an electromechanical switch, high switching transients are generated. They can be suppressed significantly by placing a controllable semiconductor switch (21) in parallel with the switch (4), in which case the total load current (ITOT) is distributed among both switches. The first comparison circuit (25) monitors the current (Iswitch) which passes through the electromechanical switch and compares it to a very small reference value. As soon as the current which passes through the switch reaches the reference value, the first comparison circuit gives a control voltage which forces the semiconductor switch into the conductive state. Because of this, the rate of increase of the current which passes through the switch (4) decreases essentially because a large part of the total load current (ITOT) passes through the semiconductor switch (21). The second comparison circuit monitors the total load current (ITOT) and compares it to a maximum current value at which the load must be disconnected from the voltage source. When the total load current exceeds the reference value, the second comparison circuit gives a control voltage which immediately forces the semiconductor switch to the nonconductive state. At this point the current which passes through the electromechanical switch increases suddenly so that the internal overcurrent protection of the switch reacts immediately and opens the switch.

IPC 1-7

H01H 9/54; H02H 3/08

IPC 8 full level

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