

Title (en)  
Energy economising circuit.

Title (de)  
Energiesparschaltung.

Title (fr)  
Circuit économiseur d'énergie.

Publication  
**EP 0120258 A1 19841003 (DE)**

Application  
**EP 84101475 A 19840213**

Priority  
DE 3306761 A 19830225

Abstract (en)

1. Energy economising circuit for electrical apparatus (1), which, when there is a specific, relatively high power demand, are to manage, when switched on, with a relatively low operating power, for which purpose the electrical apparatus (1) is connected to a low power direct voltage source (4) and is positioned in parallel with a first capacitor (3) and in series with a first switch element (5), which is connected to a delay circuit (6) having a second capacitor (12) as a timing element and is controlled by the latter, wherein, after a period of time which can be determined by the capacitance of the second capacitor (12) and is sufficient to charge the first capacitor (3) following the switching on of the voltage source (4), a conducting signal emitted by the delay circuit (6) actuates the first switch element (5), characterised in that - the direct voltage source (4) contains a transformer (24) with two secondary windings (13, 14) which differ in their turns number and which, together with respective downstream rectifiers (15, 16), form from the conducted supply voltage two direct voltages which differ in their magnitude by a factor of about 4 to 6, - the secondary winding (13) having the larger turns number is connected, via the rectifier (15) downstream of it and via an ohmic resistor (2) which serves to limit the current, to the parallel circuit comprising the electrical apparatus (1) and first capacitor (3), so that it delivers the greatest part of the charge for the first capacitor (3), - in that the secondary winding (14) having the lower turns number is directly connected via the rectifier (16) to the parallel circuit comprising the electrical apparatus (1) and first capacitor (3), so that it delivers the greatest part of the low operating current for the electrical apparatus (1), - and a power failure detector (7) is connected to a junction (19) between the direct current source (4) and first capacitor (3), and is moreover connected to an adjustable reference potential, and if, after a comparison, the potential at the junction (19) is smaller than the reference potential, the delay circuit (6) reactivates by discharging the second capacitor (12) for the duration of a reduced potential at the junction (19), whereby the delay circuit (6) can then be adjusted once more according to its function.

Abstract (de)

Die Erfindung betrifft eine Energiesparschaltung für elektrische Geräte (1), die bei einer bestimmten, relativ hohen Schaltleistung mit einer relativ niedrigen Betriebsleistung auskommen sollen. Es ist vorgesehen, daß ein elektrisches Gerät (1) mit einer leistungs-schwachen, gleichgerichteten Spannungsquelle (4) verbunden, parallel zu einem ersten Kondensator (3) geschaltet ist. Mit dem Gerät (1) in Reihe befindet sich ein erstes Schaltglied (5), das von einer einen zweiten Kondensator (12) aufweisenden Verzögerungsschaltung (6) gesteuert wird. Diese gibt nach dem Einschalten der Spannungsquelle (4), verzögert um eine Zeitspanne, die zum Laden des ersten Kondensators (3) ausreicht, ein Signal ab. Dadurch wird das erste Schaltglied (5) stromführend geschaltet. Ein Netzausfalldetektor vergleicht das Potential an einer Leitungsverknüpfung (19) zwischen Spannungsquelle (4) und erstem Kondensator (3) mit einem Bezugspotential. Wenn das Bezugspotential unterschritten wird, reaktiviert er die Verzögerungsschaltung (6). Dabei entlädt er den zweiten Kondensator (12), wodurch die Verzögerungsschaltung (6) wieder einsetzbar ist.

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Citation (search report)

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