Title (en)

APPARATUS FOR AUTOMATICALLY TRACKING THE OPTIMUM WORKING POINT OF A D.C. VOLTAGE SOURCE

Publication

EP 0090212 B1 19880113 (DE)

Application

EP 83102274 A 19830308

Priority

DE 3212022 A 19820331

Abstract (en)

[origin: US4510434A] Solar generators, fuel cells and similar d-c voltage sources have a current-voltage characteristic, on which at one point ("maximum power point" MPP) the maximum power can be taken from the d-c voltage source. In an arrangement, in which a d-c voltage source feeds a consumer through a controllable power converter, the optimum operating point is automatically set by setting a reference value for the voltage or the current into the converter, and impressing a supplemental reference value temporarily thereon as a disturbance variable at certain time intervals. If due to the impression, the output power of the d-c voltage source increases, the reference value is adjusted in the direction of the supplemental reference value. If, on the other hand, the sign of the power change is negative, the reference value is changed opposite to the sign of the supplemental reference value. After a finite number of reference value changes, the instantaneous operating point is this brought to the optimum operating point. Since the sign of the power change is determined through evaluation of the derivative with respect to time of the actual power value, the amplitude of the disturbance variable can be chosen very small, so that the operation of the consumer is not impaired.

IPC 1-7

G05B 13/02; G05F 1/66

IPC 8 full level

G05F 1/56 (2006.01); **G05B 13/02** (2006.01); **G05F 1/66** (2006.01); **G05F 1/67** (2006.01)

CPC (source: EP US)

G05F 1/67 (2013.01 - EP US); Y10S 323/906 (2013.01 - EP US)

Citation (examination)

- US 3384806 A 19680521 - HARTMAN DAVID J
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EP 83102274 A 19830308; AT 83102274 T 19830308; DE 3212022 A 19820331; DE 3375336 T 19830308; JP 5676083 A 19830331; US 47834383 A 19830324