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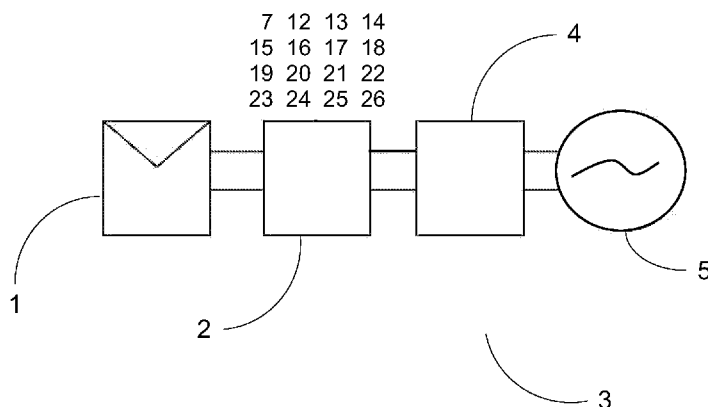


Fig. 1

(57) Abstract: Methods and apparatus may provide for the adaptive operation of a solar power system (3). Solar energy sources (1) and photovoltaic DC-DC power converters (2) may be interconnected in serial, parallel, or combined arrangements. DC photovoltaic power conversion may be accomplished utilizing dynamically adjustable voltage output limits (8) of photovoltaic DC-DC power converters (2). A photovoltaic DC-DC power converter (2) may include at least one external state data interface (7) receptive to at least one external state parameter of a solar power system (3). A dynamically adjustable voltage output limit control (12) may be used to relationally set a dynamically adjustable voltage output limit (8) of a photovoltaic DC-DC power converter (2). Dynamically adjusting voltage output limits (8) may be done in relation to external state parameter information to achieve desired system results.

