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**Farkas**

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(54) **CONTROL METHOD, CONTROL DEVICE AND MOBILE ELECTRIC POWER STORAGE APPARATUS**

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See application file for complete search history.

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(57) **ABSTRACT**

The invention is a control method and a control device for determining components of a control voltage of an inverter adapted for feeding power to a grid, in the course of which a vector direction ( $\theta^*$ ) of a voltage of the grid is determined, on the basis of active power and reactive power of the grid, current reference signal components ( $i_{d,ref}$ ,  $i_{q,ref}$ ) are determined, Park vector components ( $i_x$ ,  $i_y$ ) are generated by Park transformation from components ( $i_1$ ,  $i_2$ ,  $i_3$ ) associated with phases of a current of the inverter, the current reference signal components ( $i_{d,ref}$ ,  $i_{q,ref}$ ) are transformed into the transformed current reference signal components ( $i_{x,ref}$ ,  $i_{y,ref}$ ) on the basis of the vector direction ( $\theta^*$ ), a first error signal is generated by leading the first component ( $i_x$ ) of the Park vector and the first component ( $i_{x,ref}$ ) of the transformed current reference signal to a first subtracting unit (77), and a second error signal is generated by leading the second component ( $i_y$ ) of the Park vector and the second component ( $i_{y,ref}$ ) of the transformed current reference signal to a second subtracting unit (79), the error signals are guided through control blocks each comprising three parallel signal paths (81, 83, 85) and outputting summed up outputs of the signal paths (81, 83, 85), and the components ( $u_{1,inv}$ ,  $u_{2,inv}$ ,  $u_{3,inv}$ ) of the control voltage are determined on the basis of outputs ( $u_{x,inv}$ ,  $u_{y,inv}$ ) of the control blocks by inverse Park transformation. The invention is, furthermore, a mobile electric power storage apparatus comprising the control device.

**5 Claims, 7 Drawing Sheets**

