

based on at least a determined/estimated motor value indicative of a controlled parameter of said electric motor, and at least a motor reference value, which is associated to said controlled parameter of said electric motor, the method further comprises the step of regulating said motor reference value in order to limit the DC-link capacitor voltage within a predetermined voltage range.

Preferably, said determined/estimated motor values correspond to said output currents, said motor reference values correspond to said current references, said method comprises: determining the amplitude of said DC-link capacitor voltage, determining the amplitude of output currents provided to said electric motor by said electrolytic capacitor-less inverter, said regulator system being configured to control said duty cycles of the switching units of said electrolytic capacitor-less inverter based on said output currents and said current references, said method regulates said current references of said regulator system in order to cause said DC-link capacitor voltage to be limited within said predetermined voltage range.

Preferably, the method comprises the step of regulating said current references of said regulator system in order to cause said DC-link capacitor voltage to be limited within said predetermined voltage range, without using said lines currents and/or DC-link currents.

Preferably, the method comprises the step of clamping said DC-link capacitor voltage to a prefixed value, when said electric motor regenerates back current to said the DC-link capacitor via said electrolytic capacitor-less inverter.

Preferably, the method comprises: determining an active current based on said output currents and said duty cycles, regulating said current references based on said active current and said DC-link capacitor voltage.

Preferably, the method comprising the step of determining a first active current based on the d-q axis-wise duty cycles which are indicative of said duty cycles of the switching signals and d-q axis-wise currents indicative of said output currents.

Preferably, the method comprising the step of determining a second active current based on the d-q axis-wise duty cycles indicative of said duty cycles of the switching signals and said determined current references.