

METHOD OF GENERATING AN ELECTRICAL QUANTITY WITH A PREDETERMINED FREQUENCY AND AMPLITUDE, AND ITS USE

Main Technological Area —> Electro-mechanics

Keyword —> Generator | Synchronous | Asynchronous | Stator Frequency | Rotor frequency | Permanent Magnets | Electric load | Rotation Speed

System for supplying alternating current to an electrical load that requires a predetermined frequency and voltage; the system uses a circuit that regulates the frequency and voltage of the current supplied to the load itself.

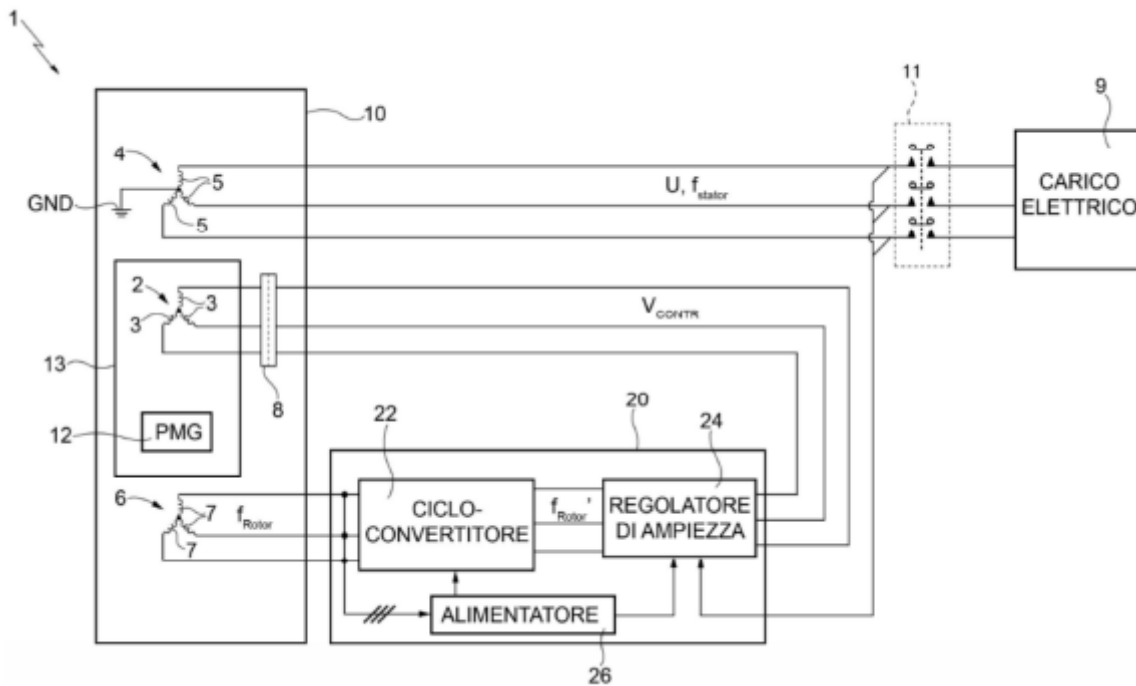


Figure 1

TECHNICAL FEATURES

Alternator that supplies both an electric load and a synchronous generator aimed at regulating the f_{stator} frequency of the AC voltage supplied to the electric load. The alternator is an asynchronous generator with a wound rotor and double power supply (2 and 4 in Fig.1) mechanically coupled to the rotation shaft.

A permanent magnet synchronous generator (12 in Fig. 1) is mounted on the same rotation shaft and generates an AC f_{Rotor} frequency voltage, so that it can be used to adjust the f_{stator} frequency according to the relationship:

$$f_{Stator} = \frac{n_{Rotor}}{60} \times N^{\circ}_{goppie\ poli} \pm f_{Rotor}$$

INNOVATION/BENEFITS

The innovation lies in the possibility of supplying alternating current at a "regulated" frequency while also supplying the "frequency regulator". This innovation is advantageous when you do not have an external source of electricity as can occur on an "unmanned aircraft".

AREAS OF USE

Frequency regulated alternating current generators

PATENT INFORMATION

Priority Date – 2015/02/20

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