



SILENT SPIN SINE WAVE GENERATOR

ABSTRACT OF THE DISCLOSURE

A method and circuit are presented for operating a polyphase dc motor in which drive voltages are applied to the windings of the motor in predetermined phases. Zero crossings of currents flowing in respective windings of the motor are detected, and phases of the drive voltages are adjusted to have zero crossings substantially simultaneously with the detected zero crossings of the currents flowing in respective windings of the motor. The method includes generating a set of three waveforms (45,46,47) to provide drive voltages to respective windings of the motor. Each waveform has a period of 360° with a first segment (43) having a value of zero for 120° , followed by a second segment (50) having an "up slope" shape for 60° , followed by a third segment (67,68) having two consecutive "cap" shapes for 120° , followed by a fourth segment (52) having "down slope" shape for 60° . Each waveform of said set is displaced from one another by 120° . As a result, the acoustic motor noise is reduced.

Fig. 2