

Washing machine: Sensorless AC motor drive for European-type washer

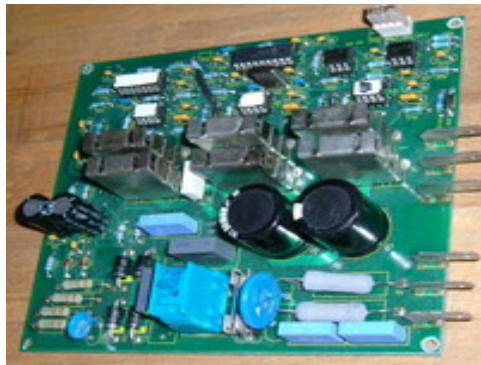
➤ Customer:

OEM, washing machines

➤ Product description:

Electronic controller for 3-phase induction motor with no sensors for European-type washer, having drum speeds up to 1500 RPM. Controller is based on a low-cost RISC microprocessor, passive utility interface, and includes communication support to the machine controller, as well as the motor control features such as the shaft speed estimation, torque/unbalance detection, wash, distribution and spin modes and active braking. It is designed to comply with applicable safety and EMC norms, having the overall cost as the primary goal.

Motor is designed for 1.5 Nm torque at the low-speed mode, while reaching 20.000 RPM in the field weakening. Extremely large top speed - to - rated speed ratio and a wide field weakening range called for particular care in designing the motors magnetic circuit, the form of the rotor slots, and the winding scheme.



➤ involvement:

Electronics: Complete hardware and software design, manufacturing of prototypes. Power section concept & design, designing the power and control hardware, design of the RISC processor control & communication software, norms issues.

Motor: Consultancy and support in the motor design.