

Types of Step Motors There are three basic types of step motors: variable reluctance, permanent magnet, and hybrid. This discussion will concentrate on the hybrid motor, since these step motors combine the best characteristics of the variable reluctance and permanent magnet motors. They are constructed with multi-toothed stator poles and a permanent magnet rotor. Standard hybrid motors have 200 rotor teeth and rotate at 1.8° step angles. Because they exhibit high static and dynamic torque and run at very high step rates, hybrid step motors are used in a wide variety of commercial applications including computer disk drives, printers/plotters, and CD players. Some industrial and scientific applications of stepper motors include robotics, machine tools, pick and place machines, automated wire cutting and wire bonding machines, and even precise fluid control devices