**DC Motors**

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| Brushed  Don't Ignore the Humble Brushed DC Motor | Mouser  BDC motors use wound coils of wire to create a magnetic field. In brushed motors, the coils (rotor) rotate freely, while the fixed part (stator) houses permanent magnets. The rotor's magnetic field needs to rotate to create torque, achieved through a sliding electrical switch called a commutator. This causes attraction and repulsion between the rotor and stator, making the rotor spin. | Brushless  Brushless Motors | NIDEC CORPORATION  BLDC consist of a rotor with permanent magnets and a stator with windings. The windings can be configured in a "star" or "delta" arrangement.  To drive a brushless motor, three-phase "half bridge" circuits with switches like transistors or MOSFETs are used.  Position feedback is obtained using Hall sensors mounted on the stator, which detect the rotor's magnetic field and is used by the control electronics to sequence the windings and make the rotor spin. |

Terms

1. Poles – The permanent magnetic poles, north and south, on the rotor.
2. Stator – The stator is the non-moving, fixed counterpart of the rotor.
3. Armature – The device through which electric current is passed for generating torque (rotor).
4. Brake – It is a mechanism that uses friction or electromagnetic forces to decelerate or halt the rotation of a motor by converting kinetic energy into heat.
5. Hall Effect –When an electric current flows through a conductor, a perpendicular magnetic field causes a voltage difference across the conductor.

Choosing one

If the intended purpose of the motor does not demand a high runtime and would be used infrequently, then it makes sense to use BDC motors as they are relatively cheaper and nearly as good.