



PLATINUM ACCESS SYSTEMS™

Comparison of AC, DC Brushed and DC Brushless Motor Gate Operators

| | Gate Operator with | | | Comments |
|--|--------------------|----------------------------|-------------------------|---|
| | AC Motor | DC Brushed Motor | DC Brushless Motor | |
| Efficiency | Low | Medium (60% to 70%) | High (Up to 90%) | DC brushless motor is the most efficient motor in industry. By driving the same gate, DC brushless motor operators use less electrical power than the others. |
| Life Expectancy | Long | Medium | Long | Brushes will wear out in DC brushed motor. Brushed DC motor typical life expectancy is 2,000 to 5,000 hours. AC Motor and DC brushless motor typical life expectancy is 10,000 to 20,000 hours. |
| Service and Maintenance | Medium | Medium | Low to None | DC brushed motor needs maintenance on brushes. The brushes need to be replaced once they have worn out. The starting capacitor on AC motor needs to be replaced once it has dried out. DC brushless motor has no brush or capacitor, and requires little to no maintenance. |
| AC Power Outage Backup Capability | Low | High | High | Backup running cycles : AC operator < 3 (with additional DC backup module), DC brushed motor operator > 80 (battery included). DC brushless motor operator > 100 (battery included). |
| Solar Power Driving Capability | None | High | High | With solar panel and built-in battery backup, DC operators can work at non AC power site. |
| Starting Drive Torque | Low | Medium | High | DC motors are self starting with even torque. For the same wattage motor, the DC brushless motor can drive heavier gate than the other two types of motor. |
| Heat Dissipation | Poor | Better | Best | DC brushless motor has superior thermal characteristics and results in better heat dissipation due to the winding on the stator. |
| Electromagnetic Noise Level | High | Medium | Low | DC brushless motor operator has the least interference to remote radio receiver in operator. |
| Speed Control Capability | Low | Medium | High | AC operator has no soft start/stop features due to the difficulties of speed control. It is much easier to control the speed of DC motor even in a wide range. With phase detectors built in the motor, DC brushless motor has better speed control capability than DC brushed motor. |