

Electrical Terms

DC (Direct Current): Where the positive and negative polarity remains in same relative position (does not reverse). The electron movement in a direct current is always in one direction. This is characteristic of current delivered by batteries.

AH (Amp-Hour): This rating gives an indication of how much current can be supplied over a period of time. For example: a battery with a rating of 100 Amp-Hours can supply 100 Amps for 1 hour (100 x 1) or 10 Amps for 10 hours (10 x 10).

Mosfet (Metal Oxide Semiconductor Field Effect Transistor): The MOSFET is a voltage-controlled device that requires a minimal (small) input current. It is also characterized by its very high speed switching times that are in the nanoseconds.

SEM (Separate Excited Motors): SEM features independent control of the armature and field. Using a separately excited motor and a SEM controller eliminates the need for forward and reverse contactors and allows power to the drive motor(s) as required by operator input for more efficiency and control.

CAN (Controller Area Network) Bus: The CAN Bus system allows multiple control systems to be connected using a two-wire communications system. The CAN Bus communication protocol provides error and fault detection to ensure proper signal and command transmission and reception. Additionally, the use of the CAN Bus system considerably reduces the complexity of the wire harnesses.

Hall Effect Sensor: Hall effect devices use sensors, which measure magnetic fields. They use a magnet-mounted mechanism, which moves the magnet closer to or further from the sensor. Hall effect devices are used in applications to replace potentiometers due to their greater reliability.

MCU (Master Control Unit): A solid-state device that controls / regulates the current to multi-system controllers.

Class "H" Motor Insulation: A class rating of insulation materials has been established based on a motor's ability to withstand a specific temperature over a specific period of operation. Class "H", the highest class rating, specifies that the motor insulation must withstand an armature temperature of 356 degrees.

Electro-Opto Interrupters: Electro-Opto interrupter switches perform similar tasks to mechanical switches. They provide exceptional reliability and a minimum of maintenance since there are no moving parts to wear or break. The switches work by interrupting a beam of light with a shutter, turning the circuit on and off.

Electronic Solid State Control: A solid-state control is one, which employs solid-state devices, transistors, or Silicon Controlled Rectifiers. By switching the battery voltage on and off at a high rate (200 to 300 times per second), the motor responds to the average value of applied voltage.

Volt: A unit of electrical force. When electrons have been transferred from one body to another, there is a difference of “potential” energy between them. This difference in potential energy is measured in volts.

Ampere: A unit of flow of electricity or current. It is the rate at which electrons move through a body. It is similar to the flow of water in a pipe measured in gallons per minute.