

It is up to the system designer to determine what mode the servo drive should be configured. Listed below is a brief description of the various modes. Available modes vary depending on the servo drive model.

Mode	Mode Description	Input Command
Current Mode (Torque Mode)	The input command voltage controls the output current (torque). The amplifier will adjust the PWM to maintain the commanded current. Only use this mode if the external controller can close the velocity or position loops by means of torque commands. This is the mode of choice for very high performance machines.	+/- 10V analog signal
PWM Duty Cycle (Open Loop Mode) *	The input command voltage controls the output duty cycle. This mode is available on brushless amplifiers. Similar to voltage mode on brush type amplifiers.	+/- 10V analog signal
Voltage Mode *	The input command voltage controls the output voltage. This mode is available on brush type amplifiers. Similar to open loop mode on brushless amplifiers.	+/- 10V analog signal
IR Compensation mode *	Input command controls motor velocity. IR compensation mode can be used to control motor speed without a velocity feedback device. The amplifier will adjust the duty cycle to compensate for changes in output current. While the command response is linear, accuracy during torque disturbances is not as accurate as a closed loop velocity mode.	+/- 10V analog signal
Hall Velocity Mode	The input command voltage controls the motor velocity. This mode uses the hall sensor frequency on a brushless motor to close the velocity loop. Due to the low resolution of the hall sensors, this mode is not recommended for low speed applications. However, for many higher speed applications (over 450 rpm) Hall Velocity mode becomes economically attractive since the encoder can be taken out of the system cost.	+/- 10V analog signal
Encoder Velocity Mode	The input command voltage controls the motor velocity. This mode uses the frequency of encoder pulses to close the velocity loop. High-resolution encoder feedback allows for smooth motion at all speeds.	+/- 10V analog signal
Position Mode	The input command controls the motor position. Each incremental step can be scaled to meet the users' requirements.	Step & Direction Encoder Following Network Command

* These are 'pseudo' velocity modes or 'open loop' velocity modes. Their performance mimics velocity mode, however rate regulation is not as precise since no closed loop feedback is used. Listed from most precise to least precise are: IR Compensation, Voltage then Open Loop.