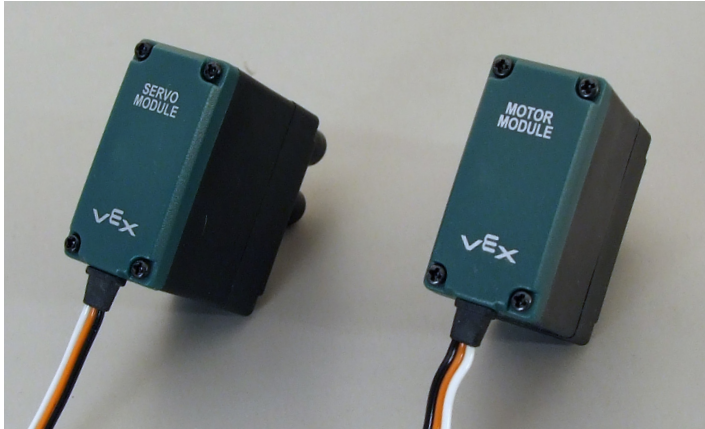# Servo Module Overview

A Servo Module (or Servo Motor) rotates its shaft to a set angular position, between 0 and 120 degrees. Once its position has been set in a ROBOTC program, the Servo Module will continually draw power to maintain that position until another is specified. Servo Modules can be plugged into any of the MOTORS ports in ROBOTC.

The only differences in appearance between the VEX Servo and Motor Modules are their labels on the back, but the two should not be confused. When a Motor Module is set equal to a value, it uses that value as a power setting and starts spinning its shaft in continuous rotations. When a Servo Module is set equal to a value, however, it uses that value to rotate its shaft to a position and hold it there.

Servo Modules are typically and appropriately found in robotic grippers and arms because of their small range of motion, ability to be set to a specific position, and ability to hold that position. They can be set to values ranging from -127 to 127, with -127 being fully rotated one way and 127 fully rotated the other.
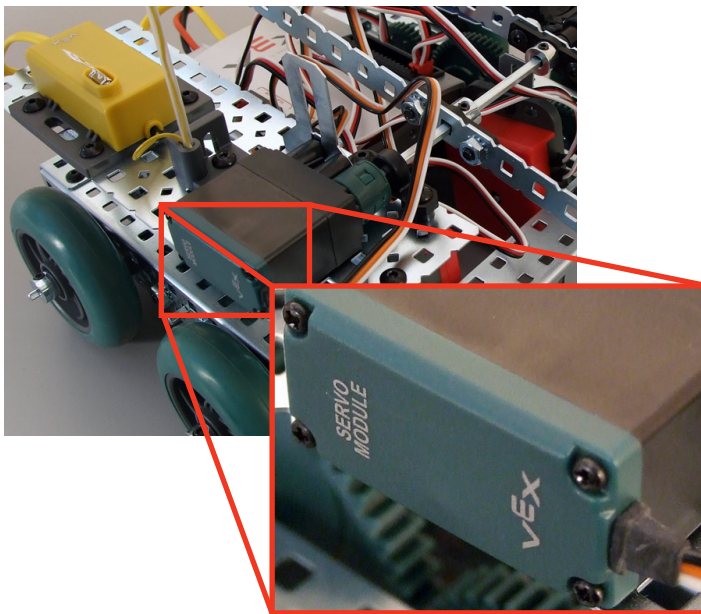
Mounted Servo Module
Here, the Servo Module is mounted on Squarebot 3.0. It allows the arm to be rotated and held at specific positions.

Servo Module Natural Language Sample Code

Rotating the Servo Modules Shaft to Different Positions
This code rotates a Servo Module on MOTOR Port 6 to a different position every second, starting at -127 (fully backward) and ending at 127 (fully forward).

```
task main()
{
  setServo(port6, -127);  //Set position fully backward
  wait(1);                //Wait for 1 second

  setServo(port6, -95);   //Set position 3/4 backward
  wait(1);                //Wait for 1 second

  setServo(port6, -63);   //Set position 1/2 backward
  wait(1);                //Wait for 1 second

  setServo(port6, -31);   //Set position 1/4 backward
  wait(1);                //Wait for 1 second

  setServo(port6, 0);     //Set position to middle
  wait(1);                //Wait for 1 second

  setServo(port6, 31);    //Set position 1/4 forward
  wait(1);                //Wait for 1 second

  setServo(port6, 63);    //Set position 1/2 forward
  wait(1);                //Wait for 1 second

  setServo(port6, 95);    //Set position 3/4 forward
  wait(1);                //Wait for 1 second

  setServo(port6, 127);   //Set position fully forward
  wait(1);                //Wait for 1 second
}
```