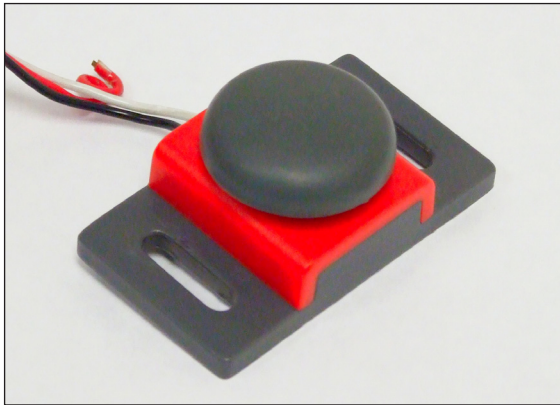


## Reference

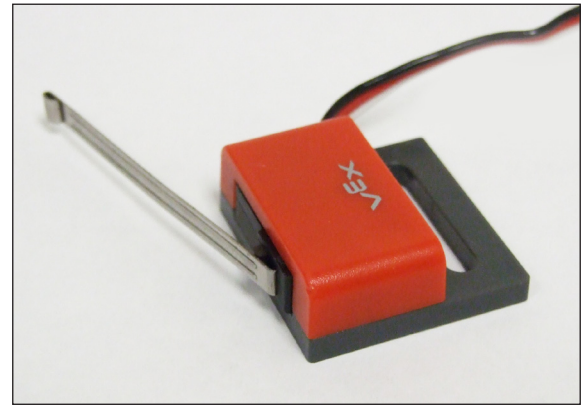
### Touch Sensors Overview

There are two different VEX sensors, the Bumper Sensor and the Limit Switch, that act as touch sensors. Despite their differences in appearance and usage, both sensors operate in a similar matter, and can be programmed in the same way.



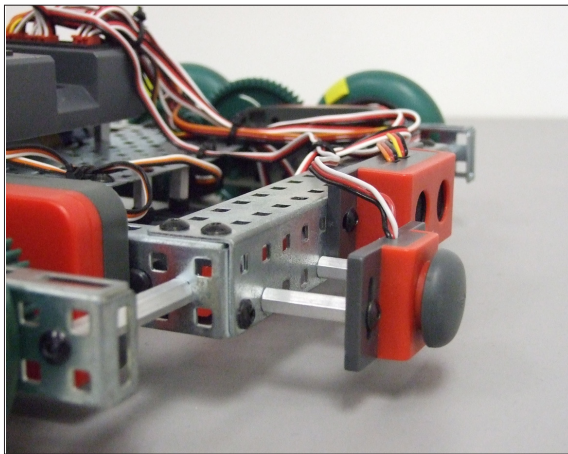
#### **Bumper Switch**

The Bumper Switch, above, is a type of touch sensor for the VEX. Due to its size and construction, it is better suited for tasks such as wall detection.



#### **Limit Switch**

The Limit Switch is another form of touch sensor for VEX. It is more suited for detecting smaller motions that might not trigger the bumper sensor.



**Example of a Bumper Switch attachment**

Both the Bumper Switch and the Limit Switch are digital sensors. Whenever the sensor is pressed in, it will return a value of 1. Whenever it is not pressed in, it will return a value of 0.

Touch sensors are used to perform a variety of tasks, from solving a maze using wall detection to controlling the movements of your robot's arm attachment.

**Note:** On both the Bumper Switch and the Limit Switch, the red wire is not used. Even if you notice that the red wire is "falling out" of the sensor, it should not have any effect on the sensor's performance.

## Reference

### Touch Sensors Natural Language Sample Code

#### Move Forward Until Touch

This code has the robot move forward until the sensor is pressed and then stop moving.

```
task main ()
{
  robotType(recbot); //Specifies the robot type

  forward(63); // Move forward at speed 63.
  untilTouch(dgtl6); // Wait for touch sensor in digital port
                    // 6 to be pressed.
  stop(); // Stop.
}
```

#### Move Forward When Released

This code has the robot wait until the touch sensor is released and then then move forward for 1 second.

```
task main ()
{
  robotType(recbot); //Specifies the robot type

  // Be sure to hold the touch sensor pressed in while starting
  // your program!!

  untilRelease(dgtl6); // Wait for touch sensor in digital
                      //port 6 to be released.
  forward(63); // Move forward at speed 63.
  wait(1.0); // Wait 1.0 second.
  stop(); // Stop.
}
```

#### Bump to Spin

This code has the robot wait until the touch sensor is bumped and then spin right for 1.5 seconds.

```
task main ()
{
  robotType(recbot); //Specifies the robot type

  while(true)
  {
    stop(); // Stop. Do not move.
    untilBump(dgtl6); // Wait for touch sensor in digital
                    //port 6 to be bumped.
    pointTurn(right, 95); // Make a right turn in place at
                        //speed 95.
    wait(1.5); // Wait for 1.5 seconds.
  }
}
```