

Connect VEX and ROBOTC
Electrical Engineer Responsibilities

## Electrical Engineer

Responsibilitiesibatteries charged.
Work with Mechanical Engineer to
2. attach the battery, motors, and sensors to the model and cortex.
Work with the computer Engineer to
complete Motor and Sensor Setup
3. complete Motor and sensor setup.

## Cortex

1. The VEx cortex microcontroller coordinates the flow of in formation and power on the robot.
2. All electronic system components must interface come mic rocontroller.
3. The microcontroller is VEX robot.


## Power

Important: Keep batteries charged

1. Every robot heeds a power source to operate.
2. A 7.2 V NiCd rechargable battery will be used.


## Motors

- Motors transform electrical energy into mechanical energy, which creates cotary motion.



## Motors

Two methods to connect 2-wire motor to Cortex

- Motor ports 1 and 10
- Motor port 2-9 using Motor Controller 29


2-Wire 269 Controller 29


2-Wire 393



## Sensors

Attach Sensors to the model and Cortex


Line Tracker

## Bumper Switch Sensor

Signal: Digital
Sensor Values: $1=$ pressed, $0=$ released Description: The bumper sensor is a physical switch. It tells the robot whether the the sensor is being
 pushed in.

## Limit Switch Sensor

Signal: Digital
Sensor Values: 1 = pressed, $0=$ released Description:

$$
\begin{aligned}
& \text { The limit switch } \\
& \text { sensor is a physical } \\
& \text { switch indicating whether } \\
& \text { the arm is pushed. }
\end{aligned}
$$



## Line Tracker



You can use the line trackers to help your robot navigate
 marked path.


## ROBOTC - Programming

Work with the Computer Engineer to complete Motor and Sensor Setup



## Analog Sensor Setup



## Digital Sensor Setup



## Motor and Sensor Schematic

Complete the Motor and Sensor Schematic on Automation Through Programming Summary


