

VEX Robotics Design System

Sensors

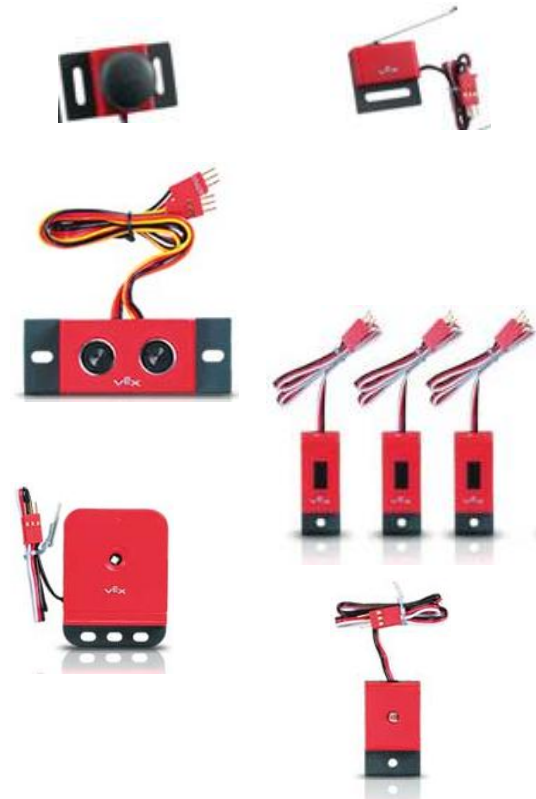
A Brief Overview



VexLabs' Sensor Robot

Off the Shelf Sensors

- Bump Sensors
 - bumper switches
 - limit switches
- Ultrasonic Range Finder
- Line Tracking Kit
- Optical Shaft encoders
- * Light Sensors



* We'd have to get these (we don't have any)

Touch Sensors



- Bumper Switches
 - designed to run into walls...



- Limit Switches
 - designed to detect mechanical arms...

Ultrasonic Range Finder



- Detects the time it takes sound waves to return
- Used to measure distances from 3 cm to 3 m

Line Tracking Kit



- Detects reflected infra red light
- Used to follow lines

Optical Shaft Encoders



- Detects 90 ticks per shaft rotation
 - Useful for measuring speeds

*Old encoders (they only have one PWM cable) can't tell direction of rotation

Potentiometers

(Variable Resistors)



- Resistance depends on shaft rotation
- Useful to accurately measure angles
 - Limited range of rotation

Light Sensors



- I haven't got a chance to play with these yet.