



Assume 1Hz Clock

Always off

Blinks once/second
brieflyBlinks once/second
on 1/2 the timeBlinks once/second
off briefly

Always on

PWM transmitted by a microcontroller (theoretically)

- Pulse width modulation is a technique for getting analog results through digital means.
- Digital control is used to create a square wave.
- This on-off pattern can simulate voltages in between full-on (5V) and off (0V) by changing the portion of the time the signal spends on versus the time that the signal spends off.

PWM received by a microcontroller

- A microcontroller can compare the time high to the time total to that ratio.
- These comparisons are limited to a range from 0 - 255.

Accelerometers

The mma7260 is a 2-axis accelerometer capable of measuring up to $\pm 2g$.

2 pins emit pulses that correspond to the acceleration from the axis to turn the motor.

By measuring the length of the pulse, a microcontroller can read the rate of acceleration.

Servos

Vex 2-wire motors with motor controller 2A.

Like a microcontroller can handle power signals to turn the motor.

Signature: *[Signature]*

Date: 3/18/25

Team Members:

Witness:

Date:

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