Lights are your friends

Indicator lights on the various control system components can go a long way to helping troubleshoot issues. This guide prepared by CSA Laura Rhodes should give some insight into the possible problems with your robots.

Robot Signal Light

- Fast Blink = cRIO not communicating with Driver Station
- Slow Blink = disabled
- Short on/long-off Blink = either low battery or no code & disabled
- Long on/short off blink = Teleop mode
- Solid on = Autonomous mode

Power Distribution Board

- LEDs for each power supply circuit. They light red if and only if there is a load present and either the breaker is absent or the breaker is blown
- Should always have 3 green LED's for 5V, 24V, and 12V indicators

cRIO

- Verify Ethernet communications by flashing leds next to Ethernet
- Verify green power LED, amber status LED should be off
- Analog Input card and Solenoid Output card will have lit LED when powered

Digital Sidecar

- Should always have 3 green lights – BAT, 5V, 6V
- RSL matches robot signal light pattern

Lights are your friends

Jaguar speed controllers

Normal:

- Solid Yellow = Neutral (speed set to 0) Fast Flashing Green = Forward
- Fast Flashing Red = Reverse
- Solid Green = Full speed forward
- Solid Red = Full speed reverse

Fault Conditions:

- Slow Flashing Yellow= Loss of CAN or PWM link or Robot Disabled
- Slow Flashing Red = Fault
- No light = no power (check power connection)

Victor speed controllers

- Solid Green = Full forward
- Solid Orange = Neutral/Brake
- Solid Red = Full Reverse
- Note that no light on the Victor can indicate partial throttle

Fault Conditions:

- Flashing Orange = No PWM signal
- Flashing Red = Failed Calibration
- No light = no power

Talon speed controllers

- Solid Green = Full Forward (positive output voltage equal to input voltage)
- Flashing Green = Forward (rate of led blinking is proportional to percent throttle)
- Solid Red = Full Reverse (output voltage equal to input voltage multiplied by -1)
- Flashing Red = Reverse (rate of led blinking is proportional to percent throttle)
- Solid Orange = Talon is in the enabled state and the throttle is within the 4% dead band

Fault Conditions:

Lights are your friends

- Flashing Orange = No PWM signal or robot is disabled.
- Flashing Red+Orange = Fault (Undervoltage, Over temperature, or shorted output)