

LED Status Indicator:

The LED located on the front of the unit provides status of the units operation and used for troubleshooting.

The LED Blink Codes occur at power up, the number of green blinks indicates the throttle configuration:

- 1 Green LED flash = 0-5 kohm resistive
- 2 Green LED flashes = 5K-0 ohm resistive
- 3 Green LED flashes = 0-5 Volt
- 4 Green LED flashes = ITS Inductive E-Z-GO
- 5 Green LED flashes = 0-1K ohm resistive, Yamaha
- 6 Green LED flashes = 6-10.5 Volt, Taylor-Dunn
- 7 Green LED flashes = 5k-0 ohms, 3-wire, ClubCar
- 8 Green LED flashes = Reserved for future use
- 9 Green LED flashes = PUMP Mode (toggle on-off ramp to 100% output)
- 10 Green LED flashes = USB Comm-throttle (Coming soon)
- 11 Green LED flashes = Absolute throttle (Coming soon)

Normal display status:

- Solid Green: Controller ready to run
- Solid Yellow: Controller throttle is wide open, controller is supplying max output, and is not in current limit.

Trouble Shooting:

The SPM-SPB controllers ERROR codes are different than the AXE and DCX products.

Please note the Error code display:# of GREEN and RED blinks indicates any error conditions that might exist:

CRITICAL:

- 1-GRN (+) 1-RED LED flash = Short Circuit
- 1-GRN (+) 2-RED LED flash = Battery Under Voltage
- 1-GRN (+) 3-RED LED flash = Battery Over Voltage
- 1-GRN (+) 4-RED LED flash = M- Over Temp (Check connections)
- 1-GRN (+) 5-RED LED flash = Bus Bar Over Temp (Check connections)
- 1-GRN (+) 6-RED LED flash = Pre-Charge Failure

STATUS INDICATOR:

2-GRN (+) 1-RED LED flash = Under Temp
2-GRN (+) 2-RED LED flash = Not Used (Reserved)
2-GRN (+) 3-RED LED flash = High Throttle Over-range (note 1)
2-GRN (+) 4-RED LED flash = High Throttle Under range (note 1)
2-GRN (+) 5-RED LED flash = Low Throttle Over range (note 2)
2-GRN (+) 6-RED LED flash = Low Throttle Under range (note 2)

3-GRN (+) 1-RED LED flash = Uncalibrated throttle

Note 1: High Throttle range is the "full pedal position".

- > The throttle could be faulty
- > Wiring / connectors
- > Incorrect throttle set in the program
- > Other wise, Clear throttle auto-calibration and try again.

Note 2: Low Throttle range is the pedal "at rest OFF pedal position"

- > The throttle could be faulty
- > Wiring / connectors
- > Incorrect throttle set in the program
- > Other wise, Clear throttle auto-calibration and try again.

Note 3: Uncalibrated throttle

May occur when a SPM or SPB controller is auto-calibrated to one electric car throttle, then moved to another electric car - or a new throttle is replaced.

- > Clear throttle auto calibration and try again.

Tech-Talk: LED Alarms

Advanced controller have a multitude of inputs and outputs. A sequence of Green+Red provides more alarm codes without counting past 6 flashes (which is difficult to do). There is a pause between these alarm sequences always starting with GREEN.

Group 1: 1-Green + Red alarm code is a Critical Alarm

Group 2: 2-Green + Red alarm code is a condition that may inhibit or cause the controller to stop, but is not a hard fault, rather a condition that requires attention.

Group 3: 3-Green + Red alarm code is an uncalibrated throttle, clear the throttle calibration and try again.

Tech-Talk: Throttle Range

Throttles can be troublesome, especially when old. Auto calibration will sense foot-switch and record the "zero position" of the throttle. The controller remembers the highest input and stores this as 100% throttle.

This allows throttles that are "not manually calibrated", production variances, or slightly old and worn to provide excellent low end control and always hit 100% throttle.

This learning curve is "adaptive" with built in fail safes which means - in a nut shell, the advanced SPM knows what the range is suppose to be for a given throttle.

So if a 0-5K resistive throttle is measuring "Out Of Range" an alarm will alert the user to verify the mechanical issues to prevent an unsafe condition.