CEEN-BOT Operation and Trouble Codes

Turning your CEEN-BOT ON & OFF

Press either of the ON/OFF buttons for a minimum of $1/10^{th}$ of a second to turn the robot ON or OFF. If the robot is OFF and the button is pressed for less than $1/10^{th}$ of a second, the robot will appear to do nothing. If the robot is ON and the button is pressed for less than $1/10^{th}$ of a second the left LED on the control board will go off while you are pressing the button but nothing else will change. When turning your CEEN-BOT ON you should hear two short beeps, a short click of the Vs relay engaging, the two control board LED's should turn Orange and the interface board LED should turn green.

Troubleshooting power problems

My CEEN-BOT won't turn ON or immediately turns OFF after start up

- Check that the battery is fully charged
- Check the fuse by removing it and test that it has continuity with an ohm meter
- Look over your robot for short circuits
- Make sure that component leads on the optical sensors are not touching the bumper
- Make certain your PSX receiver is plugged in correctly by removing then reinstalling it. If it is off by a pin to either side the robot will not turn ON

The small red LED on the right of the control board is blinking
This is the Low Battery Indicator.

The small red LED on the right side of the control board is ON steady
There has been an error on your CEEN-BOT. Cycle the power, if the problem persists try charging the battery.

Charging your CEEN-BOT

The charger can be plugged in to your CEEN-BOT when it is ON or OFF. If your CEEN-BOT is ON and the charger is attached, you should hear two long beeps, the Vs relay should disengage and all LED's on the robot should turn OFF except for the left LED on the control board. This LED blinks orange at a rate proportional to the amount of current going into the battery. If the light is blinking slowly, your battery is near dead and will take a while to charge. If the LED is blinking quickly it is nearly done charging. When your battery has reached its charged voltage the left LED on the control board will go solid red for about 20 seconds. At this time the CEEN-BOT is testing the battery's charge density to be sure the battery is charged. If the battery passes this test you will hear 2 long beeps then the left LED on the control board will slowly flash green. While the led is flashing green the CEEN-BOT is still monitoring its power. If it is left sitting for a long time (several days) the CEEN-BOT will probably turn its charger back on to top off the battery. If the battery fails this test the led will go back to flashing orange and the cycle

will repeat. Do not be alarmed it this stage happens several times in a row before the led turns green as it is a normal part of the charging process. In any case that the charger is disconnected the CEEN-BOT should turn itself ON.

Troubleshooting charging problems

I plug the charger in and it beeps once then shuts off
The charger voltage is not high enough to charge the battery. The charging source must be able to supply at least 9V 200mA. Replace the charger.

The battery is never done charging or the LED never blinks green
Your battery may damaged or simply worn out. Replace with a new battery

Operating the CEEN-BOT in Bump-BOT mode

To operate the CEEN-BOT in Bump-BOT mode, be sure to place the 'Bump Bot' jumper on pins 2 and 3, or 'En' on the interface board. This will enable Bump-Bot mode. Also make sure that the PSX board is not plugged into the top of the interface board. Bump-BOT mode will not work if the PSX board is installed.
The blue potentiometer sets the speed the CEEN-BOT will go in bump bot mode. Turn this to the right for higher speed and left for lower speed. With the wheels off the ground turn this right and watch the wheels spin faster. Place the CEEN-BOT on the ground and let it go. You can make the CEEN-BOT go **VERY FAST** by turning the speed up, just be sure to give it a push when it's on the ground as it will not be able to start off at this speed.

Driving the CEEN-BOT

The two bi-color LED's on the control board will change color depending on the drive state of the motors.
Orange = Standby (waiting for a command)
Green = Forward
Red = Reverse
Blinking Red/Green = Brake

Troubleshooting drive Problems

The LED's change but the CEEN-BOT will not move
The motors are not connected to the control board or there is a loose solder connection on the control board

The LED's change but the motors just shake or move erratically
The motors are not connected correctly or there is a loose solder connection on the control board

PlayStation Controller (PSX)

The PSX controller allows you to drive your CEEN-BOT via wired or wireless PSX controller. Both PLAYSTATION® brand and generic brand wired controllers are

compatible with the CEEN-BOT. Only PLAYSTATION® brand wireless PSX controllers are compatible.

PSX Controller Functions

- [Square] key toggles ‘brake mode’. Brake mode is useful when navigating obstacles with inclines. When brake mode is active both of the bi-color LEDs on the control board will blink Red/Green. When driving commands are given with either left or right analog joystick the motors will respond accordingly
- [START] key powers off the CEEN-BOT.
- [ANALOG] key toggles ‘analog’ mode. Analog mode allows the user to precisely control the speed of the CEEN-BOT from a stop to full speed. When the CEEN-BOT is powered on analog mode is not active, meaning any forward or reverse commands from the controller will result in only one pre-programmed motor speed.
- [L. Shoulder 1] key acts as a momentary ‘brake’ command, activating the brake on the left motor. This feature is useful when a sudden stop is necessary but ‘brake’ mode is not toggled.
- [R. Shoulder 1] key acts as a momentary ‘brake’ command, activating the brake on the right motor. This feature is useful when a sudden stop is necessary but ‘brake’ mode is not toggled.
- [Left Analog Joystick] provides forward and reverse control of the left motor. If ‘analog’ mode is active the left analog joystick also provides precise speed control in both directions.
- [Right Analog Joystick] provides forward and reverse control of the right motor. If ‘analog’ mode is active the right analog joystick also provides precise speed control in both directions.

Troubleshooting PSX controller problems

When I drive my CEEN-BOT with a PSX controller battery does not last long.
Make sure that ‘brake’ mode is only activated when necessary. The CEEN-BOT is in brake mode when the bi-color LEDs on the control board are flashing Red/Green while the CEEN-BOT is stopped. Brake mode draws substantially more current, limiting the battery life.

Replacement Fuses can be found at the link below.
http://search.digikey.com/scripts/DkSearch/dksus.dll?Detail?name=507-1182-ND