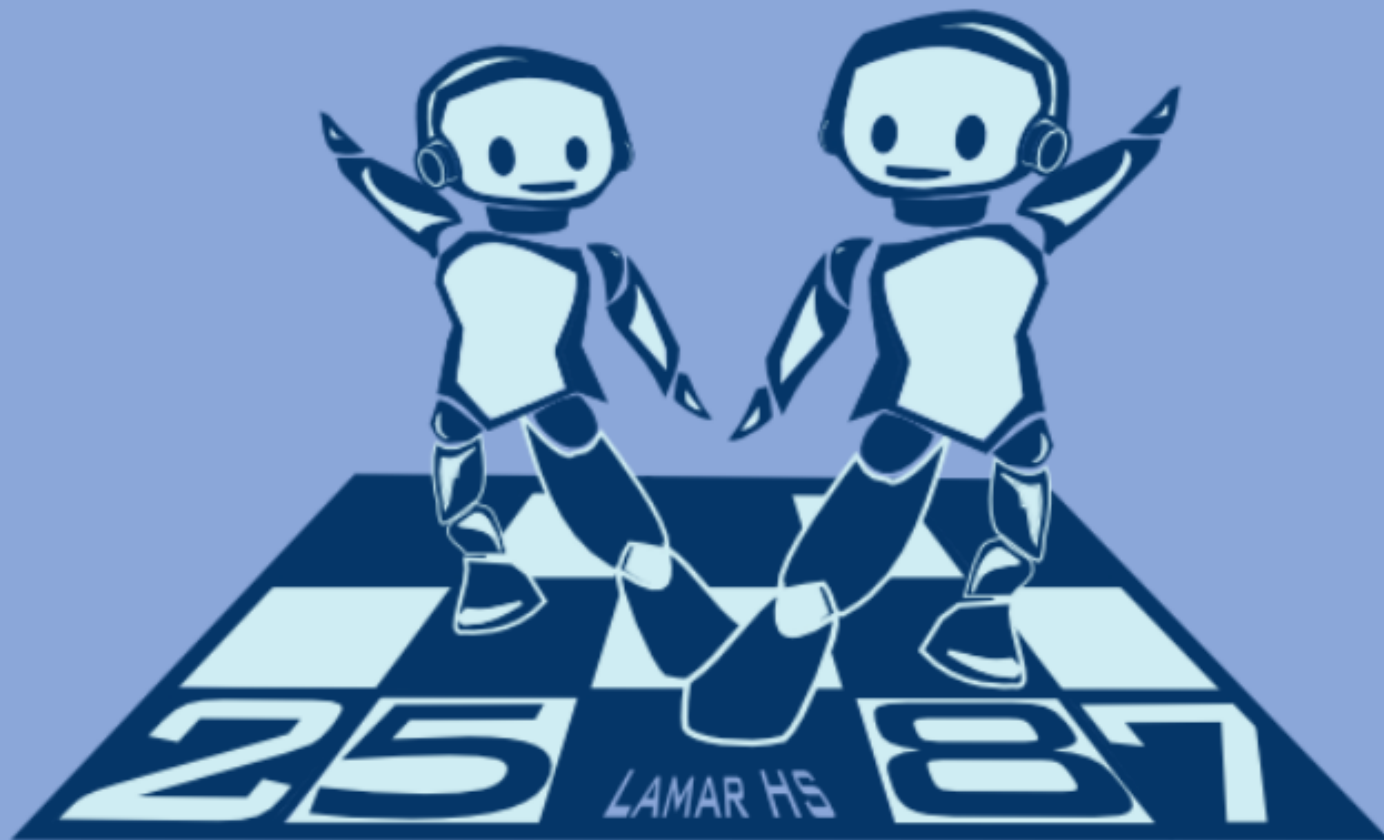


# DISCOBOTS



Give Your Minibot a Brake

# What Does This Do?

- Lets your minibot fall down the pole slowly and smoothly
- Prevent potential damage to the minibot from a freefall descent

# What you will need

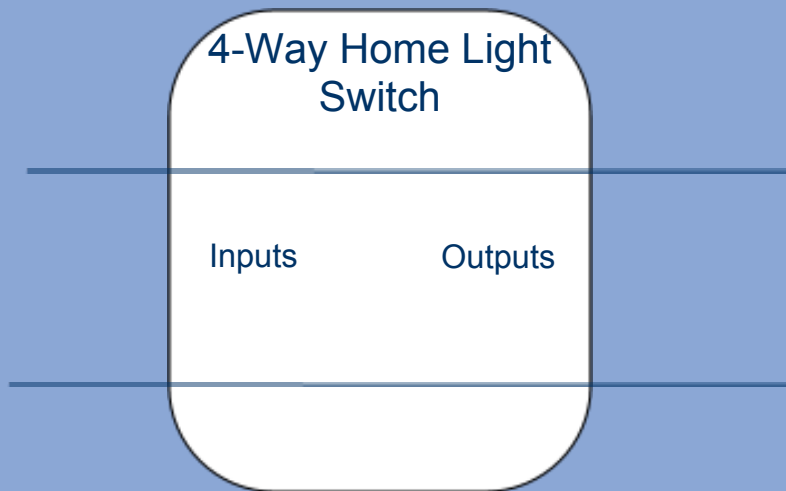
- 4-way light switch: These are normally used when a light needs to be controlled by 3 or more switches in a home.
- On-off switch: either a standard light switch or the Tetrix power switch.
- Trigger device that turns off the 4-way switch when the minibot reaches the top of the pole
- Wire and a multimeter

# How the brake works

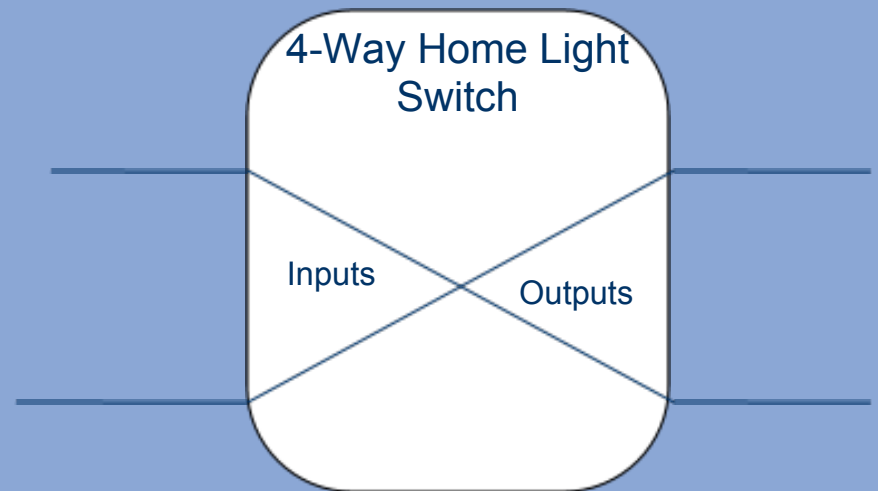
- The brake works by disconnecting the battery from the motors and connecting each pair of motor wires together.
- As the minibot slides down the pole the motors will generate electricity and feed it back into themselves. This powers them in the opposite direction of how they are traveling.
- This power adds resistance to the descent.
- This is similar to how Jaguar and Victor speed controllers operate in Brake Mode.

# 4-way light switch

**Off**  
Connected  
Across

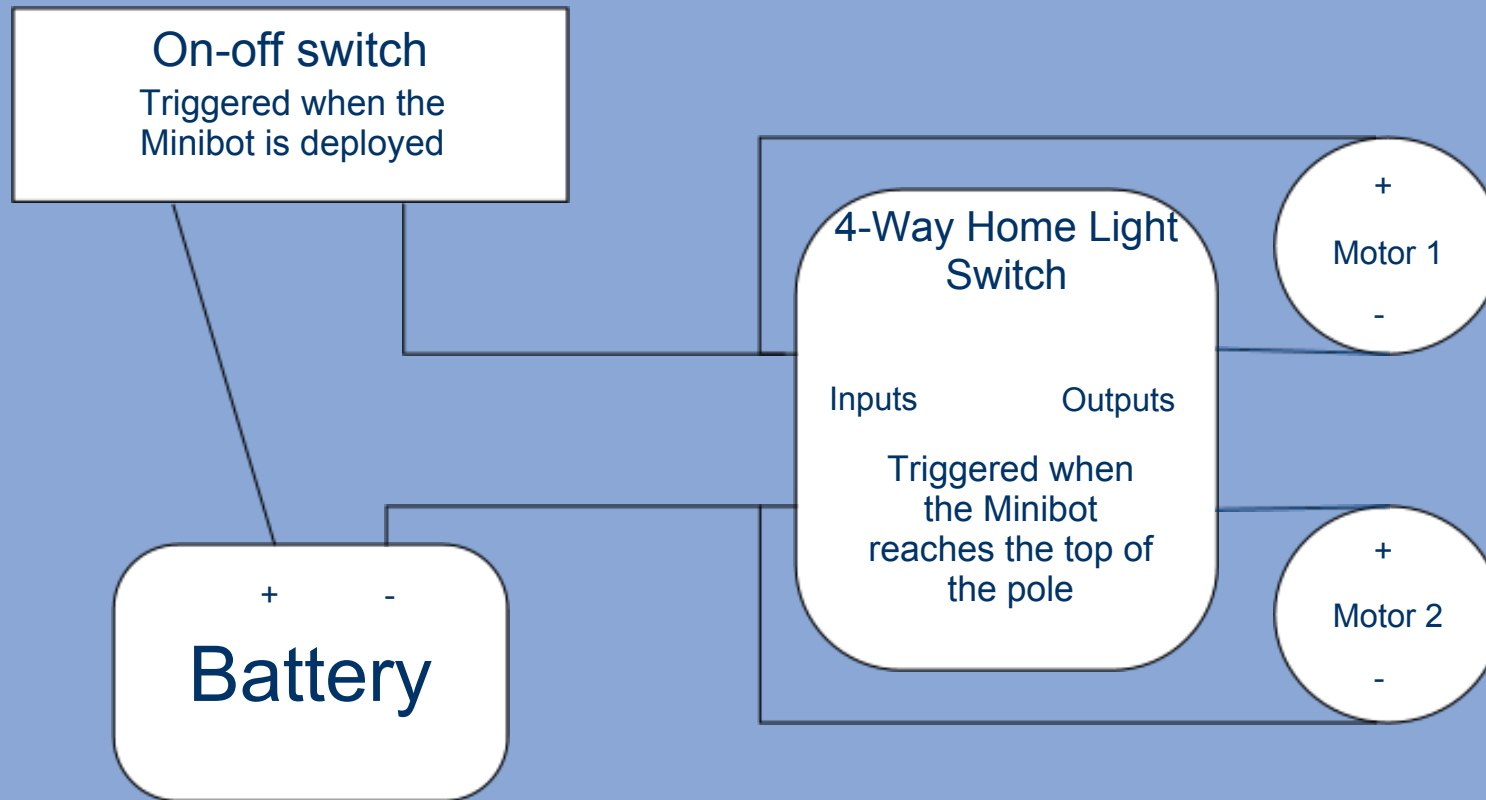


**On**  
Diagonals are  
connected



NOTE: Some 4-way light switches connect at Diagonals and not Across when in the off position. Make sure you read which terminals are inputs and which are outputs. Also check the switch with a multimeter to ensure the proper terminals are connecting as you expect.

# Minibot Wiring Diagram



NOTE: If one of your motors is not spinning in the correct direction, reverse the motor leads of the incorrect motor and it should work as expected.

# Precautions

- Before plugging in your battery make sure that the two leads inside of the battery connector are not connected when the switch is in brake mode (off).
- Do this by using your multimeter to check for continuity. Some multimeters have a mode for this. With other you will just check the resistance (if they are not connected they will read a very large resistance normally a 1 in the far left on most multimeters).
- Ensure that all your connections are properly insulated and that there are no exposed or frayed wires.
- Make sure that you are using the inline breaker between the battery and the minibot. We have replaced our breaker with a smaller one (7.5 amps or 10 amps) to help prevent motor

# Other Notes

- There are many ways to bring your minibot down safely. This is just the way that we have found works very well for our minibot.
- There are several posts on Chiefdelphi that discuss the possibilities of other methods. Here is an example <http://www.chiefdelphi.com/forums/showthread.php?t=90182&highlight=brake+minibot>



# Questions?

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