



# [H bridge PWM circuits using transistors]

## [Digital Electronics project]

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## • H-Bridge

### What is H-bridge:

- Electronic circuit that looks like letter H
- Controls the flows of current to load
- Commonly used to control speed and direction of a brushed dc motor
- This motor driver dose not cost any more than \$1.25 USD making it super cheap.

***“ENGINEERS LIKE TO SOLVE PROBLEMS IF THERE ARE NONE ,  
THEY WILL CREATE THEIR OWN PROBLEMS”***

### Application of H-Bridge:

- Motor driver circuit
- Robotics technology
- In modern battery charger for electrical vehicles

### How to check if H-Bridge is working or not:

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- Place the Voltmeter across the resistor and u should see a variable voltage depending on your PMV into the bridge and a polarity change depending on which direction and then 0V hen it's supposed to be stopped
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## **PWM**

### **Pulse-width modulation (PWM), or pulse-duration modulation (PDM):**

“Voltage, duty cycle, time”

- Powerful technique for controlling analog circuits with a microcontroller's digital outputs
- It's used to control to inverter output voltage and to reduce the harmonic content in the output voltage.

### **why PMW is used in inverter:**

- To give a steady output voltage of 230 or 110 v AC irrespective of a load

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### **PMW useful for motor :**

- Controlling amount of power delivered to load without dissipating any wasted power
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### **Components used for projects:**

- Capacitor 100 microfarad
- Tip142
- Tip147
- 2n2222
- 10k resistor
- 1k resistor □ Heat sink
- Rosetta 3 inputs
- Rosetta 2 inputs
- Transistors
- Supply

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- PCB
  - Breadboard
  - Jumpers
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