Brushed DC Motor 1: Basics

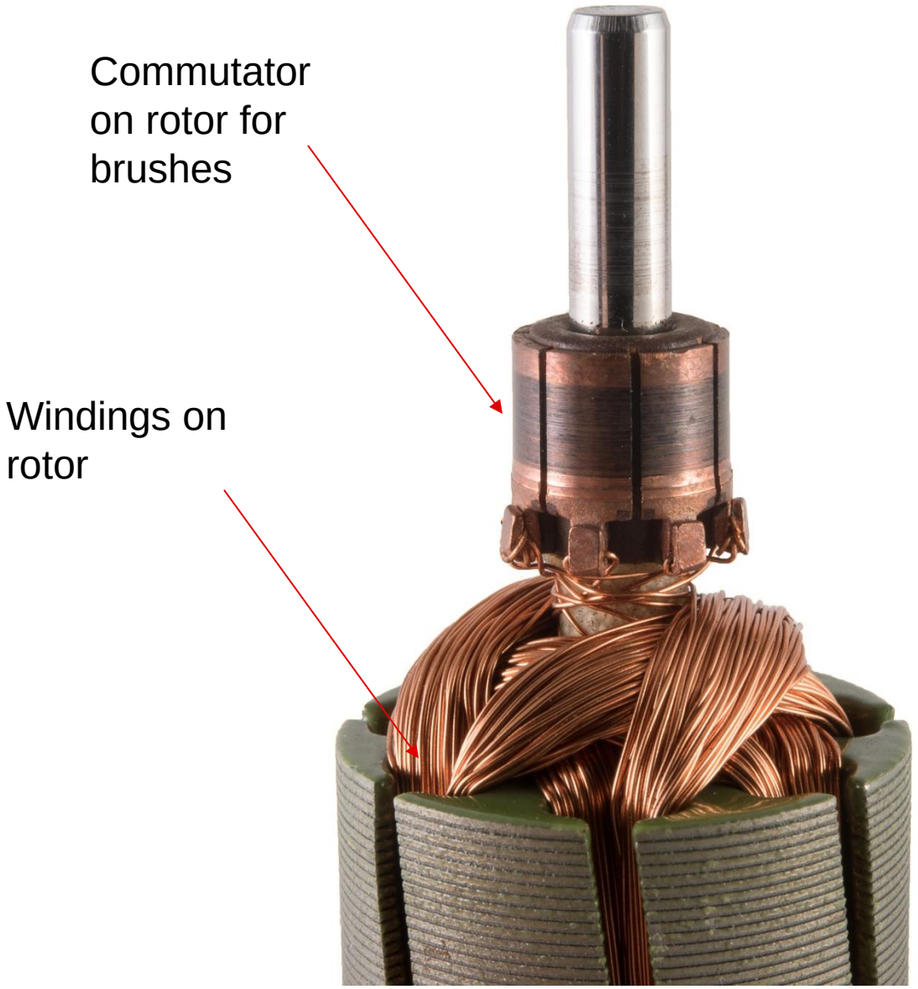
TI Precision Labs – Motor Drivers

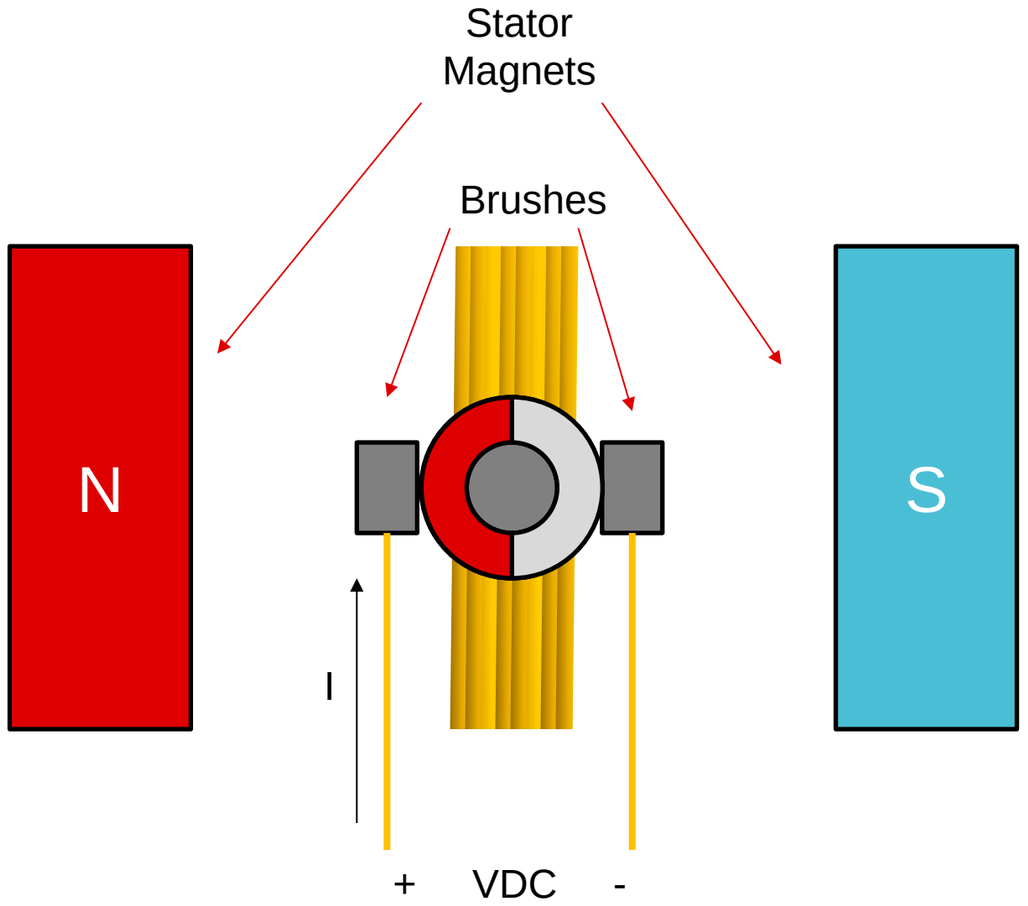
Presented and prepared by Rick Duncan

Brushed DC motor function and applications

- Basic function: move a load in one direction only or both directions.
- Advantages:
  - Low cost solution
  - Current control not required
  - Easy to control
- Disadvantages
  - Brushes wear out
  - Loud, sparking, may have EMI concerns
  - May not be suitable for some environments

What is a Brushed DC motor?





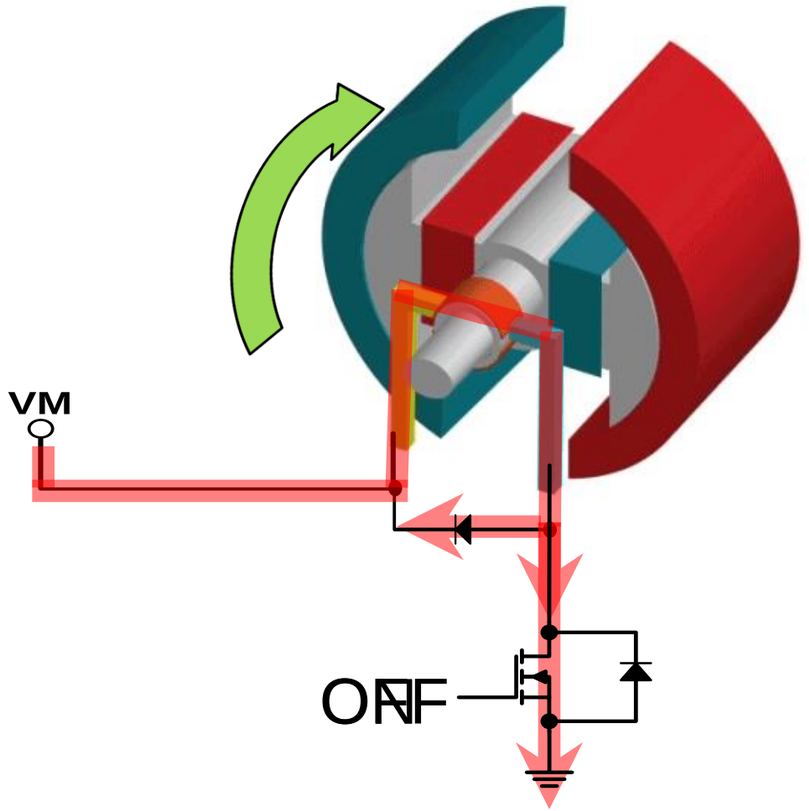
Unidirectional Brushed DC motor control

Turn the switch on to drive the motor

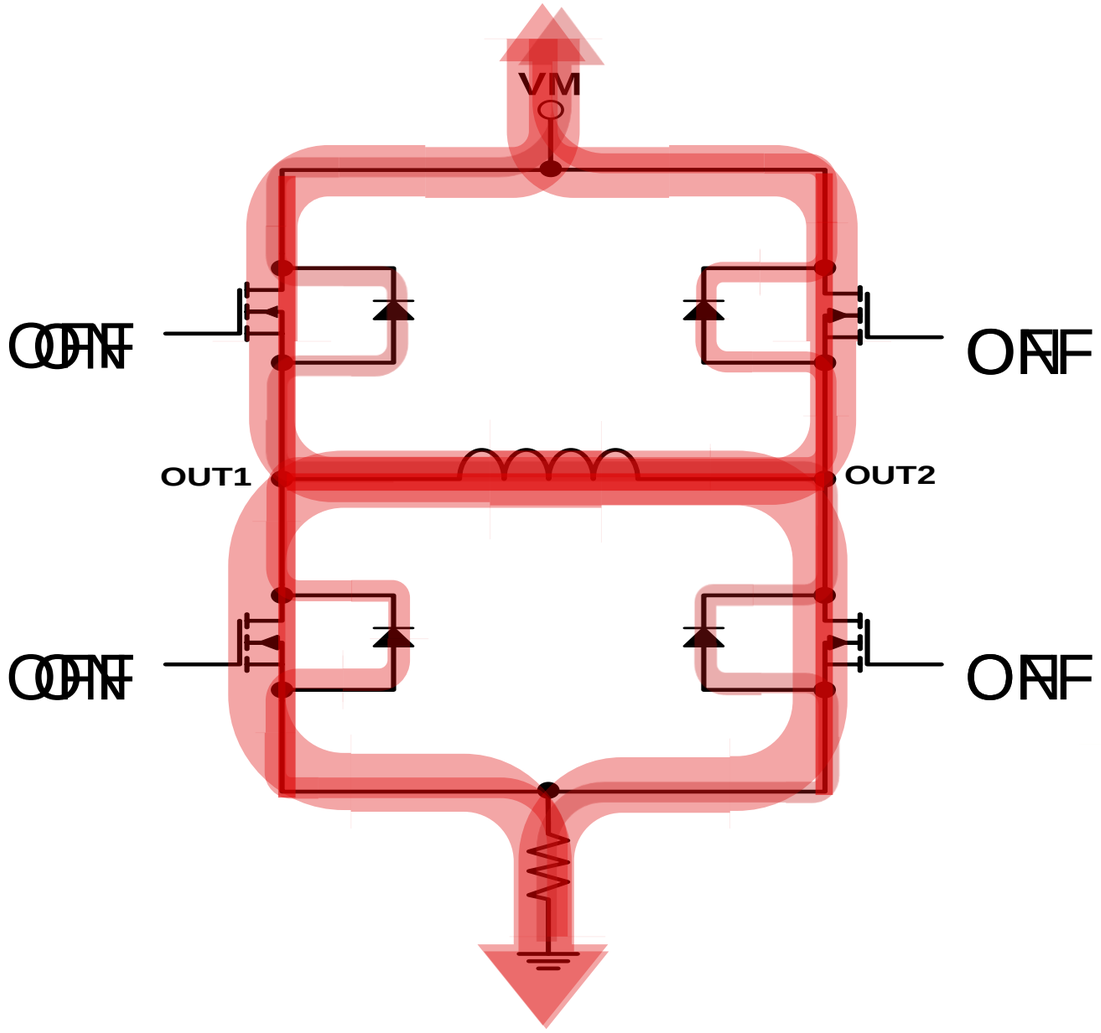
Turn the switch off to stop the motor

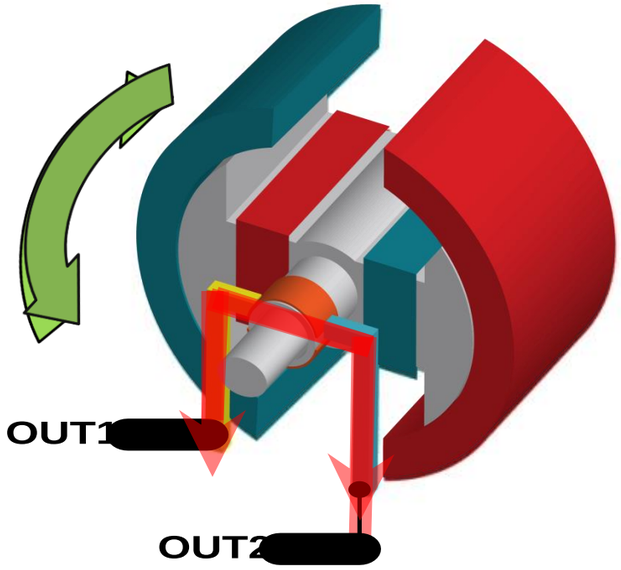
A recirculation diode is required to protect the FET and recirculate or decay the current

The motor cannot reverse direction



Bidirectional Brushed DC motor control





Reversed Drive

To find more brushed DC motor driver technical resources and search products, visit http://www.ti.com/motor-drivers/brushed-dc-bdc-drivers/overview.html

End of presentation