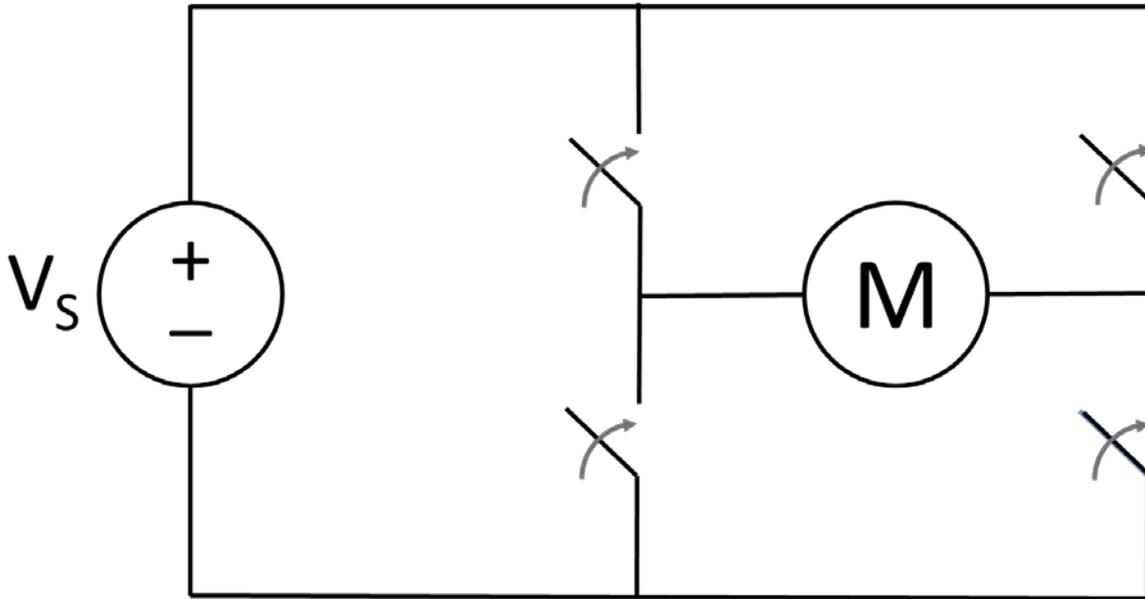


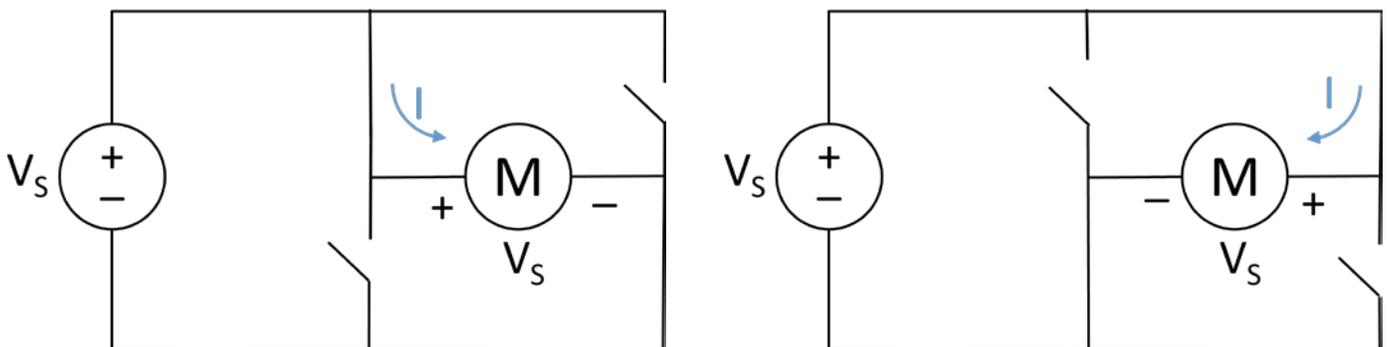
## H Bridge

An H bridge is a circuit that enables a voltage to be applied across a load in either direction (as opposed to the single transistor circuit which drives the EE40LX robot, which can only apply current in one direction and thus drive the motor only in one direction).

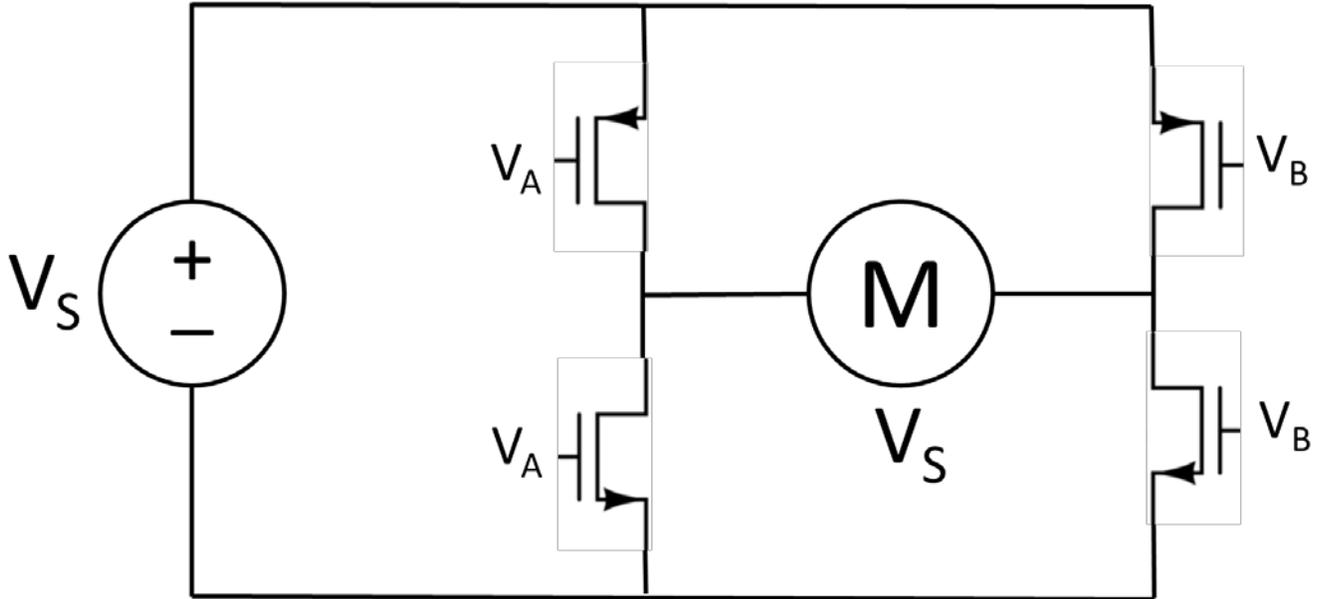
The basic H-Bridge can be understood using switches, as below.



In the above configuration, no current flows through the motor. However, note that if we alternate which switches are closed, we can flip the polarity of the voltage applied to the motor (and hence the direction of current flow).



H-Bridges are usually built with transistors instead of switches. Control lines turn the transistors on or off. The example below uses MOSFETs; note the top two transistors are p-type and the bottom two are n-type (the directions of the current arrows in the symbol show this).



Detailed instructions on how to build H-Bridges from MOSFETS or BJT's are available online in many places. Many companies sell H-Bridge IC's, sometimes with more than one bridge and often including additional sensor and control lines for the motor.