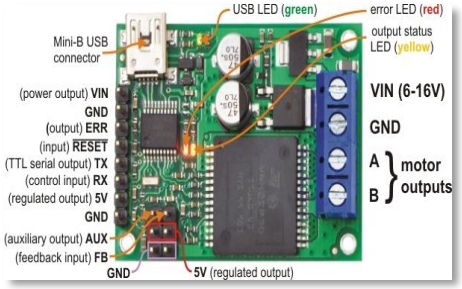
Setting up a Jrk12v12 in X-Sim.

The Jrk is a versatile, general-purpose motor controller that supports a variety of interfaces, including USB. With analog voltage feedback options this allows for a quick implementation of closed-loop servo systems, and with a free configuration utility (for Windows 7, Vista or Windows XP) this allows easy calibration and configuration through the USB port.



There are two different jrk motor controllers we have found that the Jrk 12v12 has an operating range from 6 V to 16 V. With a high continuous output current of 12 A (30 A peak) allowing us to control many medium-sized DC brushed motors with this board.

We can communicate to this card simply by sending an 8 bit signal through the usb connection, these values from X – Sim (0-) tells the card to simply move to where asked and the card decides how much speed is needed in order to drive the arm to the right position in time given. Normally achieved through symo in X – Sim.

The Jrk can be connected to the computer's USB port via a USB A to mini USB B. The USB connection is used to configure the motor controller. It can also be used to send commands to the motor controller, get information about the motor controller's current state, and send and receive TTL serial bytes on the TX and RX lines. First we must setup and wire the jrk to a motor plus pot for feedback on position then hook the power supply up and then set its limits for its maximum and minimum positions. This can be achieved by simply following this procedure.

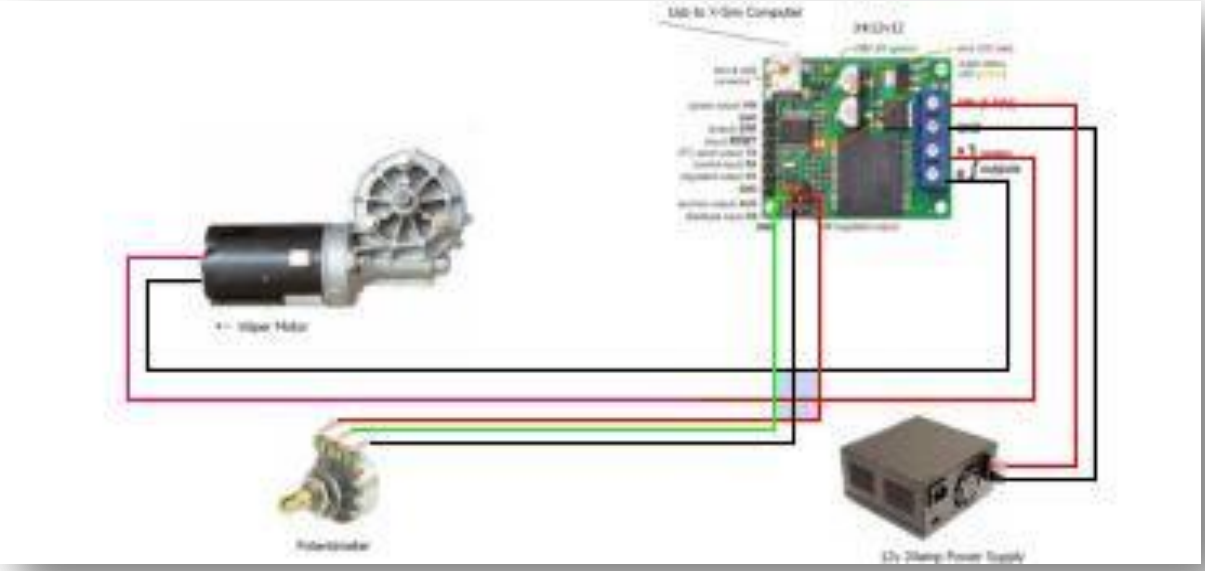
The first thing for the Jrk is to disregard the positive and negative of the wiper motor because with the Jrk its refered as A B. With this the Jrk swaps the polarity of these poles A B to achieved motor direction.

****** Important Notice ******

Remove the Earth from the motors body as an earth leak back to the Jrk through the pots own earth will be fatual to your precious Jrk.

Now with good knowledge that the wiper motor is isolated properly hook the positive to A and the negative to B so now the motor is connected to the card. Next we have to wire in the pot to the Jrk, first we start at the wire closest to the lug and connect this to the 5v (regulated output) pin on the Jrk. Then move to the next wire and connected it to the FB (feedback input) , this also can be connected to the AUX pin to set a safety clause in the running of the card. Once the option is selected, if the feedback(Pot) becomes disconnected for any reason the motor stops, possibly saving a costly repair.

Now that the Motor and Pot are wired in correctly we can connect the power to the jrk on the VIN and GND lines pictured on the right side of the diagram above. Your power source must be capable of delivering the current your motor will draw. The jrk has reverse power protection on the motor power input lines, so the board will not be damaged if the motor power inputs are accidentally switched. If the VIN supply is not present, the jrk's microcontroller can be powered directly from USB and perform all of its functions except for driving the motor.


Usb to V-Sim Computer
+/- Wiper Motor
Potentiometer
12v 20amp Power Supply