
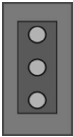



















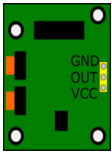







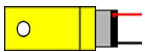




Circuits and Components Checklist

Component	Picture	Symbol	Breadboard holes	Note	Added to breadboard?
Power switch			F1, F2, F3	Direction it is facing does not matter, but make sure to slide switch down (towards row 30, away from row 1), this is the "off" position	<input type="checkbox"/>
Jumper wire			J2 to (+) bus	Color does not matter	<input type="checkbox"/>
Jumper wire			Left side (+) bus to right side (+) bus	Color does not matter	<input type="checkbox"/>
Jumper wire			Left side (-) bus to right side (-) bus	Color does not matter	<input type="checkbox"/>
MOSFET			C11, C12, C13	Writing should face to the left, large silver tab should face to the right	<input type="checkbox"/>
MOSFET			C18, C19, C20	Writing should face to the left, large silver tab should face to the right	<input type="checkbox"/>
Jumper wire			A13 to (-) bus	Color does not matter	<input type="checkbox"/>

Component	Picture	Symbol	Breadboard holes	Note	Added to breadboard?
Jumper wire			A20 to (-) bus	Color does not matter	<input type="checkbox"/>
Diode			A12 to (+) bus	Gray band must face to the left. Optional: shorten leads (see Figure 5)	<input type="checkbox"/>
Diode			A19 to (+) bus	Gray band must face to the left Optional: shorten leads (see Figure 5)	<input type="checkbox"/>
PIR sensor			GND pin to (-) bus OUT pin to J15 VCC pin to (+) bus	Color-code wires to make connections easier. Connect black wire to GND, blue wire to OUT, and red wire to VCC. See slides 13 and 14 in slideshow.	<input type="checkbox"/>
Jumper wire			E11 to G15	Color does not matter	<input type="checkbox"/>
Jumper wire			E18 to F15	Color does not matter	<input type="checkbox"/>
Top motor			Red lead to (+) bus Black lead to E12	When the robot is driving forward, this is the "right" motor	<input type="checkbox"/>
Bottom motor			Red lead to (+) bus Black lead to E19	When the robot is driving forward, this is the "left" motor	<input type="checkbox"/>





Component	Picture	Symbol	Breadboard holes	Note	Added to breadboard?
Battery holder			Red lead to J1 Black lead to (-) bus	Do not insert batteries until circuit is complete	<input type="checkbox"/>
AA battery			N/A	Insert into battery holder. Make sure (+) signs on batteries line up with (+) signs in battery holder	<input type="checkbox"/>

Table 2. List of circuit components and locations.

Copyright © 2002-2019 Science Buddies. All rights reserved.
 You may print and distribute up to 200 copies of this document annually, at no charge, for personal and classroom educational use.
 When printing this document, you may NOT modify it in any way. For any other use, please contact Science Buddies.