Cable Specification

# Requirements

1. Cable's total length (end to end) is about 12 inches (tolerance +/- 0.5 inch)
2. 2. A flexible rubber or plastic grommet for strain relief and water resistance shall fit snugly around cable and shall fit into a hole whose diameter is 10.4mm +/- 0.1mm.
3. Cable, preferably shielded, shall contain two twisted pairs of #18 to #22 stranded copper wire.
4. Cable's jacket shall be stripped 1 inch (+/- 0.25” ) back from each end of cable.
5. Each of the four wires' insulation shall be stripped 0.25” (+/- 0.125”) back from each end and shall be tinned at each end.
6. One pair of wires shall be soldered to VCC and GND (red and black, respectively, if available).
7. One end of the other pair (for example, white and green) shall be soldered to DIM1 and DIM2. This pair’s other end shall be soldered to the potentiometer’s wiper (terminal 2, center terminal) and to the left terminal, such that a clockwise turn increases resistance between these two connected terminals. (The two wires could be reversed with no consequence; order is not important. The potentiometer is used as a variable resistor, with its third terminal floating.)
8. The wires shall be epoxied to the board near the solder joints.
9. Preferably the jacket is UV-resistant.

# Examples

One or more of the following cable stock, sold by the foot, may meet the requirements, if a suitable grommet can be found:

* 2 twisted pair 20 AWG shielded, $1.88 per foot: <http://www.digikey.com/product-search/en?pv78=6&FV=fff40019%2Cfff80153%2C4f0003f%2C5040024&mnonly=0&newproducts=0&ColumnSort=0&page=1&stock=1&quantity=0&ptm=0&fid=0&pageSize=25>
* 3 pair 22 AWG shielded -- could combine two pair for power? $2.59 per foot: <http://www.digikey.com/product-detail/en/25483%20BK005/25483%20BK005-ND/5120450>
* 2 twisted pair 22 AWG shielded, $0.83 to $0.43 per foot: <http://www.altex.com/Belden-22AWG-2-Pair-Shielded-Twisted-Pair-Cable-8723-BEL-P140284.aspx>