208 Gold Flat Court
Nevada City, CA 95959
Ph: (530) 265-3236
Fx: (530) 265-3275
www.highcountrytek.com

Technical Note

Technical Note Number: DVC 7-Tech Note-2

Technical Note Issue Date: February 18, 2010

Technical Note Author: Gary Gotting

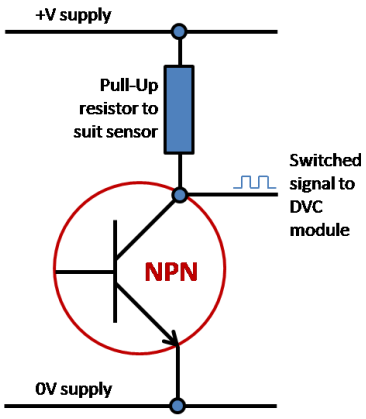
Family: DVC family

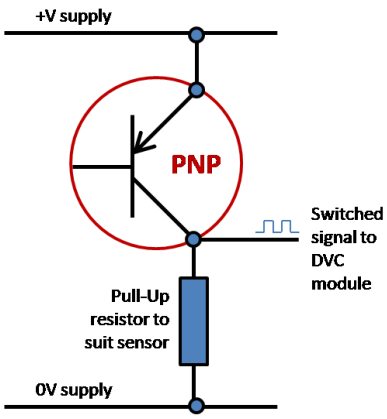
Models Affected: DVC 7, DVC 10

Description: Connection of PNP or NPN sensors to the digital or Universal inputs

Background:

a) Ensuring correct connection and health of DVC inputs and sensor outputs.





Notes:

1. DVC family universal and analog signal inputs have an internal 1MΩ pull up to +5V resistor fitted (5 µA load current).
2. DVC family have an input impedance of approx 100KΩ on universal and analog signal inputs.
3. If using an NPN style output sensor, EXTERNAL load resistor *may* be required if sensor requires more than 5µA load current.
4. If using a PNP style output sensor, the user MUST use and EXTERNAL load resistor for correct signal.
5. Always refer to sensor manufacturers data sheet for maximum ratings to ensure long sensor life.
6. Some sensors have a minimum switch current requirement to ensure clean output switching. If this is the case, use the minimum current value in the calculation below instead of the 5mA as suggested.

- ***Pull up resistor calculation = R=V/I***

  Where V is +V supply
  Where I is 5mA*

  *5mA is typical max current value for DVC input requirements