Application Note

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Application Note Number: HAD-Application Note-2

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Family: HAD series controllers

Models Affected: All

Description:

How to use a HAD Valve Driver with Preset Outputs for Forward and Reverse Operation

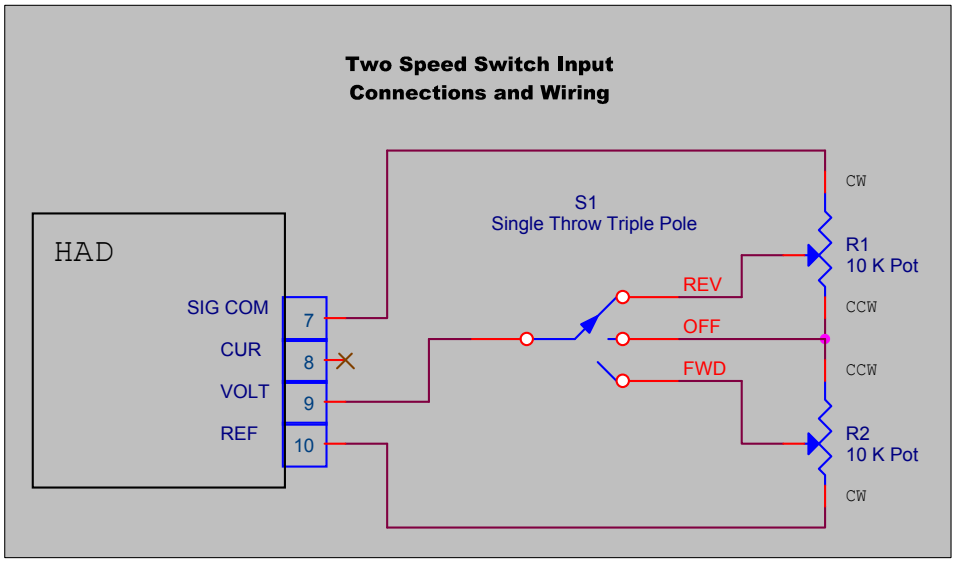
Procedure:

When it is desired to have the valve switch between both coils off, a preset value for the A coil, and a different preset value for the B coil, wire in a Single Pole Triple Throw switch and two 10K Potentiometers as shown below in Figure 1.

Set the switch to the FWD position to cause the preset coil current to flow in coil A, and set the switch to the REV position to cause the preset coil current to flow in coil B. The coil current will be at minimum with the switch set to the OFF position.

If you are not familiar with normal use or set up of the valve driver, see the HAD Users Guide, HCT PN: 021-00141 for detailed instructions on alignment and use of the HAD Dual Coil Valve Driver

Figure, 1



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System Alignment

Other than the special instructions listed below, refer to the HAD Users Guide, HCT PN: 021-00141 for complete alignment procedures and tips.

Setup the off case:

With the switch set to the OFF position; turn the CROSSOVER pot CW until the B LIGHT goes off. If the B LIGHT is off, turn the CROSSOVER pot CCW until the B LIGHT goes on. Very slowly, adjust the CROSSOVER pot back and forth, observing the midpoint of where the B LIGHT goes off and on, and set the CROSSOVER pot to this midpoint.

Setup the MIN Pots:

With the switch set to the FWD position, Adjust R2 so that it is almost fully CCW. Then adjust the MIN A pot on the HAD for a minimum amount of system response in the forward direction.

With the switch set to the REV position, Adjust R1 so that it is almost fully CCW. Then adjust the MIN B pot on the HAD for a minimum amount of system response in the reverse direction.

Setup the MAX control:

With the switch set to the FWD position, adjust R2 fully CW. Set the MAX pot on the HAD for maximum system response.

Do not adjust the unit to supply more current than is required to fully shift the valve; additional current may exceed the coil's rating, will reduce the useful range of the control input and may damage the valves coil.

Setup the preset A pot:

With the switch set to the FWD position, adjust R2 for the desired system response in the forward direction.

Setup the preset B pot:

With the switch set to the REV position, adjust R1 for the desired system response in the reverse direction.