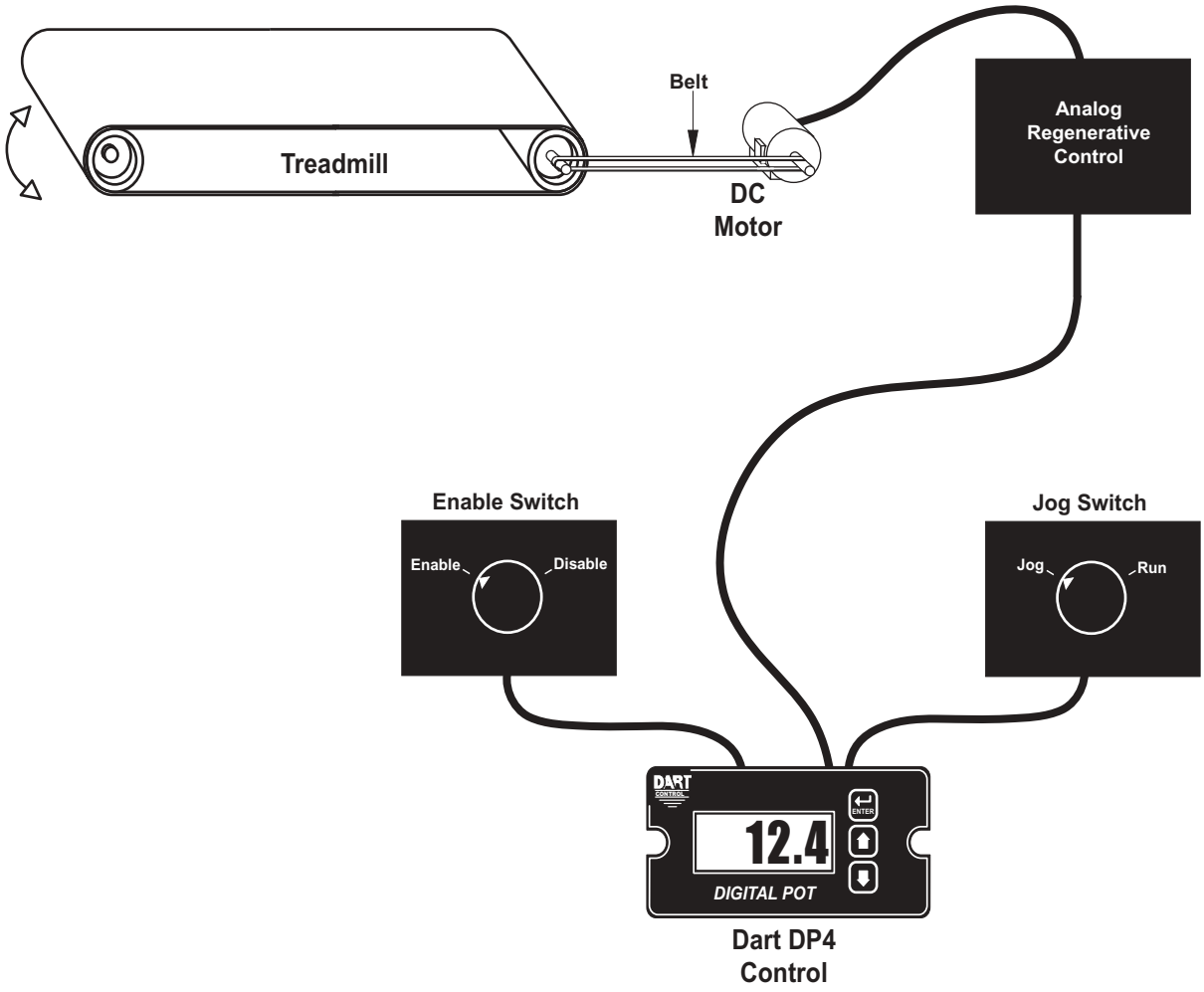
Digital Front Panel for Regenerative Industrial Treadmill

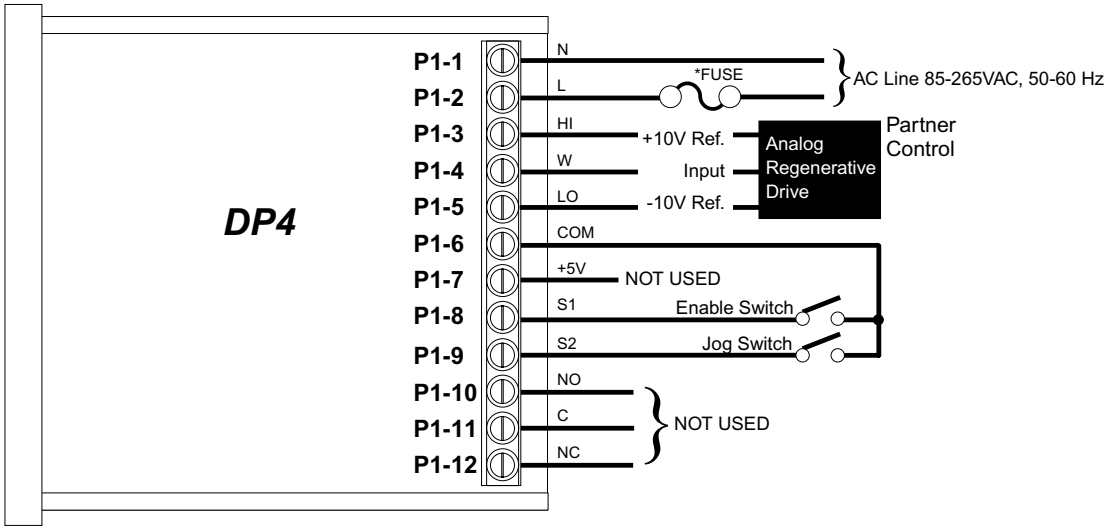
Description:

A bidirectional industrial treadmill with a speed range of +/- 12 mph is currently powered by an analog regenerative control using an external speedpot to adjust the speed. Unfortunately, the speed pot does not offer enough accuracy and repeatability to allow for proper operation of the treadmill. A DP4 has been added to the system to give it a quick and easy to use digital front panel. The DP4 has also been wired to support an external jog switch for rapidly (and temporarily) setting the belt speed to a predetermined value of 5 mph. An enable switch allows the user to immediately force the regen to a stopped conditional should it be necessary. For safety reasons, the unit will default to zero output when power is initially applied.

Application Diagram:



Wiring Diagram:



* Size fuse according to unit and application. See electrical specifications for maximums.

Parameter Configuration:

Parameter	Value	Notes
10	3	Output mode set to rate bipolar to support +/-10V regenerative drive
12	2	Zero-blanking set to 2 digits
13	3	Decimal point position set to XXX.X on display
18	1	Power-up display value set to default at 0.0
20	120	Display minimum set to -12.0
21	120	Display maximum set to 12.0
22	0	Display center set to 0.0
25	0	Set output minimum to 0% (-10V)
26	1000	Set output maximum to 100% (+10V)
27	500	Set output center to 50% (0V)
35	3	Input S2 set to force jog when low
36	50	Input S2 jog setpoint set to 5.0