

Universal Motor Controller

Tuesday, June 30, 2020 2:10 PM

DESCRIPTION: THE UNIVERSAL STEPPER MOTOR CONTROLLER IS IDLE UNTIL TRIGGERED BY A "START" INPUT. THE MOTOR THEN RUNS AN OPERATION, AND RETURNS "READY", WHEN COMPLETE, TO THE CONTROL SYSTEM.

THE UNIVERSAL STEPPER MOTOR CONTROLLER HAS MULTIPLE MODES OF OPERATION, A "MODE" INPUT SELECTS THESE MODES. EACH MODE HAS ITS OWN SET OF INPUTS TO CONTROL OPERATION OF THAT MODE AS DESCRIBED BELOW.

MODE	NAME	INPUTS
0	HOMING/CONSTANT SPEED	DIRECTION, LIMIT SWITCH
1	ABSOLUTE POSITIONING (FULL RANGE)	STEP NUMBER
2	ABSOLUTE POSITIONING (LIMITED RANGE)	STEP NUMBER
3	RELATIVE POSITIONING	DIRECTION, NUMBER OF STEPS

HOMING MODE: THIS MODE IS USED TO RETURN THE MOTOR TO THE HOME POSITION. THE MOTOR WILL TURN IN THE SPECIFIED DIRECTION UNTIL THE LIMIT SWITCH IS ACTIVATED. WHEN THIS OCCURS, THE MOTOR STOPS, AND THE CURRENT POSITION IS LOSSSED AS THE "STEP 0" POSITION.

ABSOLUTE POSITIONING: WHEN "STEP 0" HAS BEEN DETERMINED, EACH STEP OF THE MOTOR HAS ASSOCIATED WITH IT A "STEP NUMBER" — THESE NUMBERS (OR ADDRESSES) INCREASE IN THE CW DIRECTION. THE "STEP NUMBER" INPUT IN THIS MODE, SPECIFIES WHICH OF THESE ADDRESSES THE MOTOR SHOULD MOVE TO.

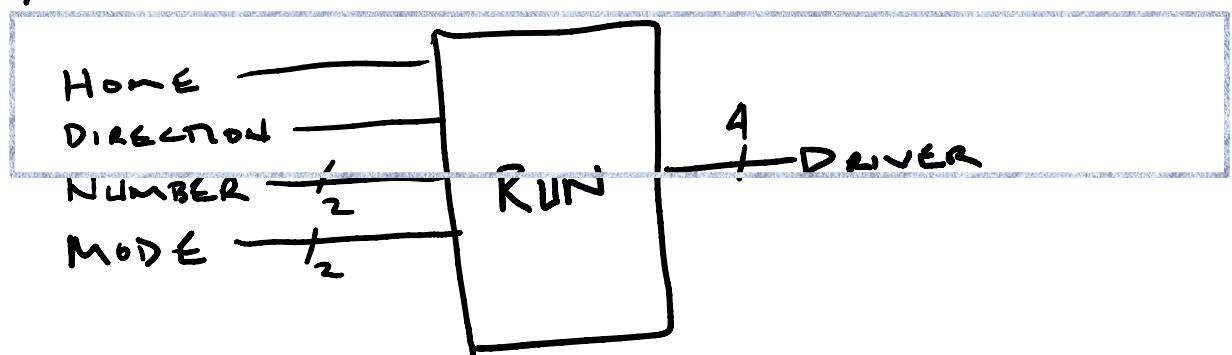
IN MODE 1, THE MOTOR TAKES THE SHORTEST PATH TO THIS ADDRESS.

IN MODE 2, THE MOTOR MOVES IN A "PIE SLICE" RANGE OF MOTION TO THE ADDRESS. THIS IS TO ACCOMODATE FOR APPLICATIONS WHERE THE MOTOR CANNOT SPIN IN ITS FULL 360° RANGE.

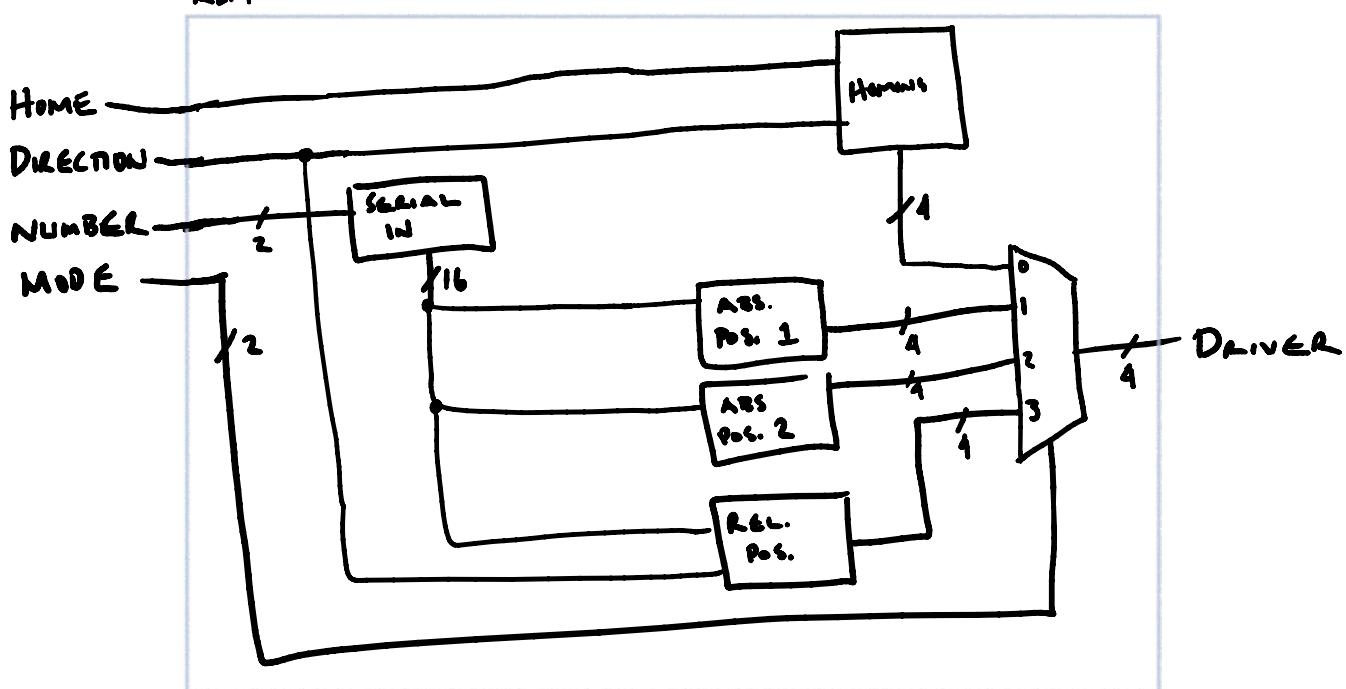
RELATIVE POSITIONING: IN THIS MODE, THE MOTOR MOVES THE SPECIFIED NUMBER OF STEPS IN THE SPECIFIED DIRECTION.

Diagrams

I/O



Run



ASM CHART

