

**NOTES**

- 1) KEEPING STEP INPUT HIGH FOR MORE THAN 10ms WILL CAUSE THE DRIVE TO SWITCH FROM MOVE CURRENT TO HOLD CURRENT. IN IDLE STATE KEEP STEP INPUT HIGH, TO ISSUE A STEP BRING STEP INPUT LOW FOR 10ms BEFORE PRESENTING A RISING EDGE, WHEREUPON THE DRIVE WILL STEP.
- 2) WHEN ADJUSTING POTS, MOVE AND HOLD CURRENTS CAN BE READ BACK BY MEASURING THE VOLTAGE ON PIN 5 AND MULTIPLYING IT BY 0.38 , WHILE KEEPING STEP INPUT HIGH/LOW, AS APPROPRIATE TO SELECT THE RELEVANT POT.  
 $\text{STEPPING CURRENT IN AMPS} = \text{VOLTAGE ON PIN5 IN VOLTS} \times 0.38$
- 3) DURING A MOVE THE HIGHER OF THE TWO POTS IS SELECTED, DURING HOLD, THE HOLD CURRENT POT IS SELECTED. THEREFORE SET THE HOLD CURRENT POT LESS THAN THE MOVE CURRENT POT, ELSE THIS POT WILL ALWAYS BE SELECTED. (CCW IS LOWER AND CW IS HIGHER).
- 4) STEP AND DIRECTION INPUTS HAVE INTERNAL PULLUPS TO 5V. THEREFORE IF DESIRED A SWITCH OR OPEN COLLECTOR TYPE PULL DOWN IS ALL THAT IS REQUIRED TO ISSUE STEPS. HOWEVER CARE MUST BE TAKEN SINCE CONTACT BOUNCE MAY ISSUE EXTRA STEPS.

**DIMENSIONS:**  
 1" X 1" X 0.5" THICK  
 MOUNTING HOLES ARE 2-56

DIP2	DIP1	MICROSTEPPING RESOLUTION
ON	ON	FULL
ON	OFF	HALF
OFF	ON	QUARTER
OFF	OFF	EIGHTH

**MATING CONNECTORS:**

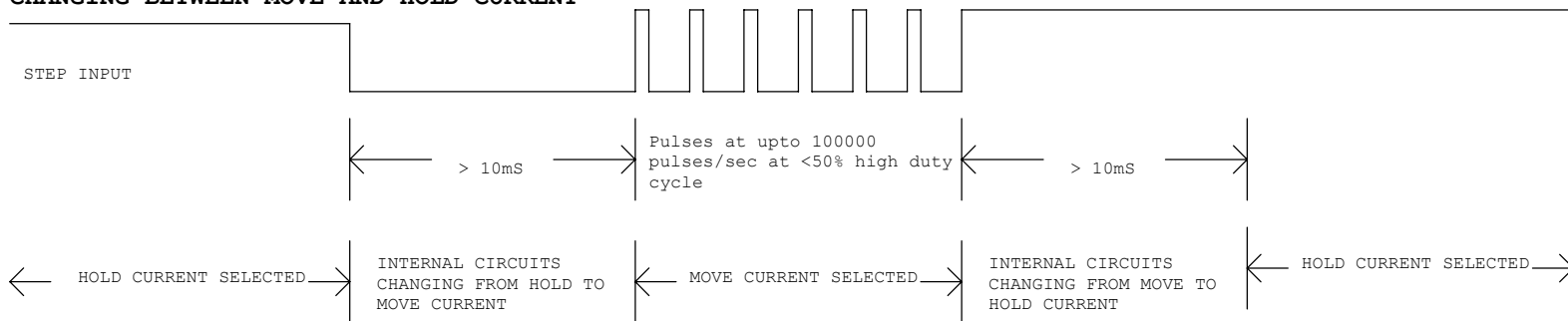
AMP MTA 100 SERIES  
 4PIN 22 GA DIGIKEY P/N A23838 (MOTOR CONNECTOR)  
 5PIN 22 GA DIGIKEY P/N A23839 (INPUT CONNECTOR)

**EZ INCH DRIVER**

Title ALLMOTION.COM EZ INCH WIRING DIAGRAM		
Size B	Document Number DOCUMENT_REV_A5	Rev A5
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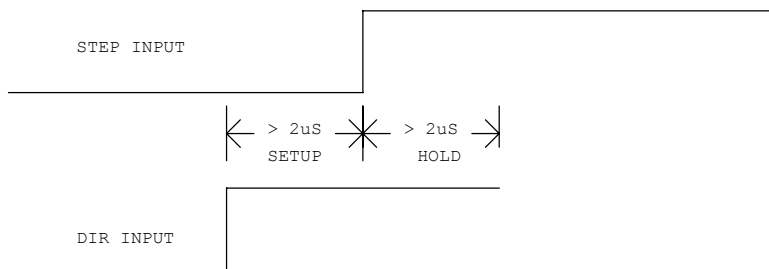
### CHANGING BETWEEN MOVE AND HOLD CURRENT



CHANGING BETWEEN MOVE AND HOLD CURRENTS REQUIRE THAT THE STEP INPUT GOES THROUGH A CERTAIN TIMED SEQUENCE. IF SEQUENCE IS NOT FOLLOWED THEN PULSES MAY BE MISSED.

- 1) KEEP THE STEP INPUT HIGH WHEN HOLD CURRENT IS DESIRED
- 2) BRING THE STEP INPUT LOW FOR A MINIMUM OF 10ms BEFORE ISSUEING THE FIRST RISING EDGE. THIS CAUSES MOVE CURRENT TO BE SELECTED.
- 3) THE DRIVE STEPS ON A RISING EDGE.
- 4) ISSUE SUBSEQUENT PULSES AT UPTO 100000 PULSES/SECOND
- 5) THE DRIVE WILL REMAIN IN MOVE CURRENT MODE AS LONG AS THE STEP INPUT HAS <50% HIGH TIME
- 6) OPTION1: ISSUE PULSES WHOSE HIGH TIME IS EQUAL TO HALF THE MAX STEP FREQUENCY, REMAINING LOW IN BETWEEN STEPS.  
Eg IF MAX PULSE RATE IS 5000 PULSES/SEC, ISSUE PULSES WHOSE WIDTH IS  $1/(5000 * 2) = 100\mu s$  WIDE.
- 7) OPTION2 : ISSUE SQUARE WAVE PULSES (50% DUTY) OF A VARIABLE FREQUENCY
- 8) KEEP THE STEP INPUT HIGH FOR > 10ms TO ENTER HOLD CURRENT MODE AGAIN.
- 9) IF HOLD CURRENT MODE IS NOT DESIRED, KEEP STEP INPUT LOW AND ISSUE NARROW (<50%DUTY) HIGH PULSES IN ORDER TO STEP.

### DIRECTION INPUT SETUP AND HOLD TIME



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