

VARI SPEED "120"



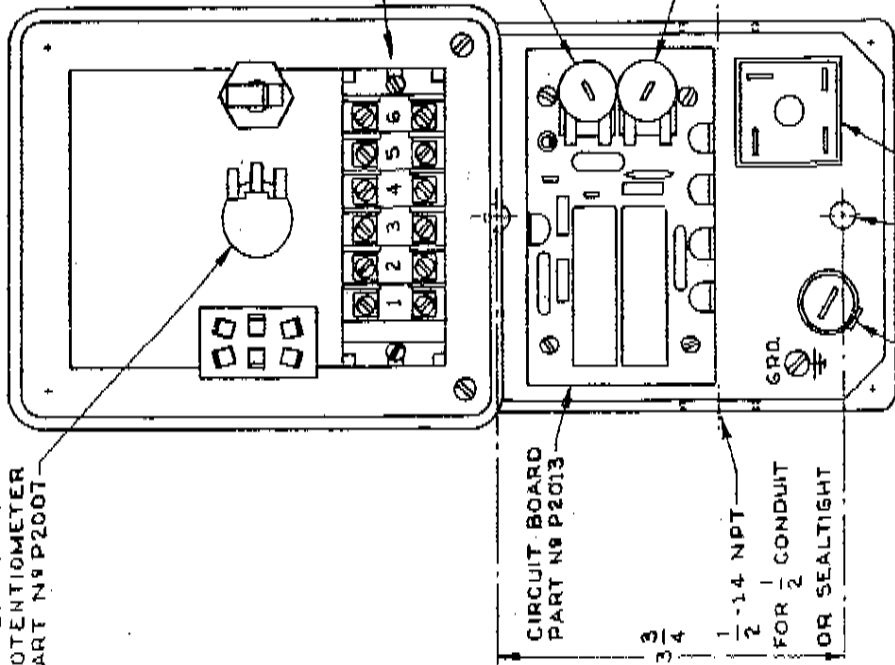
SPECIFIC FEATURES:

- Constant Torque over a 20:1 Speed Range
- Simple Design Offers High Reliability
- Subfractional Through 1 HP
- Input Voltage 115V. AC, 50/60 Hz
- Dynamic Braking Switch
- Compact Design
- Load Regulation 20%

OPTION A

SUGGESTED FUSE SIZE	HP
3 AMP SLO BLO	1/8
4 AMP SLO BLO	1/4
5 AMP SLO BLO	1/3
8 AMP SLO BLO	1/2
10AMP SLO BLO	3/4
15AMP SLO BLO	1

SPEED ADJUST POTENTIOMETER PART N# P2007



CIRCUIT BOARD PART N# P2013

3/4

1-14 NPT FOR 1/2 OR SEALTIGHT

TRIAC PART N# P2002

DIODE BRIDGE PART N# P2001

(2) 3/8 DIA. MTG. HOLES

SUGGESTIONS BEFORE WIRING

COVER POSITION DURING WIRING: REMOUNT COVER UPSIDE DOWN AS SHOWN IN DRAWING
WIRE SIZE AND TYPE: N# 14 GA. OR LARGER SHOULD BE USED FOR AC AND DC LINES. CLASS A INSULATION IS SUGGESTED.

CODE REQUIREMENTS:
 1. A SEPARATE FUSED DISCONNECT OR CIRCUIT BREAKER MUST BE SUPPLIED, BY USER, ON THE INCOMING AC POWER TO THE CONTROLLER. (THE FUSE ON THE CONTROLLER DOES NOT ELIMINATE THIS REQUIREMENT.) SUGGESTED FUSE SIZE - 20 AMP SLO BLO.

2. BE SURE TO GROUND THE CONTROLLER AS SHOWN IN ADJACENT DRAWING.

MOUNTING SUGGESTIONS:

FOR THE BEST PERFORMANCE OF YOUR CONTROLLER MOUNT IN A VERTICAL POSITION WITH FREE AIR FLOW AROUND THE CONTROLLER. THIS IS TO ALLOW THE HEAT GENERATED BY THE CONTROLLER TO DISAPATE INTO THE ATMOSPHERE.

SPECIFICATIONS

ENCLOSURE: CAST ALUMINUM NEMA 12, WEIGHT 2 1/2 LBS. (NEMA 4 ENCLOSURE AVAILABLE- CONSULT FACTORY)
POWER REQUIREMENT: 115 VAC 1Ø 50/60 HZ (VARIATION +12% -20%)

WIRING DIAGRAM



115 VAC 1Ø 50/60 HZ LINE FUSE
 REMOTE POTENTIOMETER ONLY

ADJUSTMENTS AFTER START UP

MAXIMUM SPEED ADJUSTMENT (IF REQUIRED)

THIS SETTING HAS BEEN FACTORY ADJUSTED. HOWEVER, IF A HIGHER OR LOWER SETTING IS REQUIRED, FOLLOW THESE STEPS:

1. CONNECT MOTOR TO FULLY LOADED CONDITIONS AND ALLOW 30 MINUTE WARM UP. (MOTOR WILL INCREASE IN SPEED AS IT WARMS UP.)
2. WITH MOTOR RUNNING AND FRONT PANEL SPEED ADJUSTMENT TURNED TO 100%, TURN MAXIMUM SPEED ADJUST (LOCATED ON PRINTED CIRCUIT BOARD) UP OR DOWN UNTIL DESIRED MAXIMUM SPEED IS ACHIEVED.

MINIMUM SPEED ADJUSTMENT (IF REQUIRED)

THIS SETTING HAS BEEN FACTORY ADJUSTED. HOWEVER, IF A HIGHER OR LOWER SETTING IS REQUIRED, FOLLOW THESE STEPS:

1. REPEAT STEP 1 UNDER MAXIMUM SPEED ADJUSTMENT.
2. WITH MOTOR RUNNING AND FRONT PANEL SPEED ADJUSTMENT TURNED TO "0", TURN MINIMUM SPEED ADJUST (LOCATED ON PRINTED CIRCUIT BOARD) UP OR DOWN UNTIL DESIRED SETTING IS ACHIEVED.

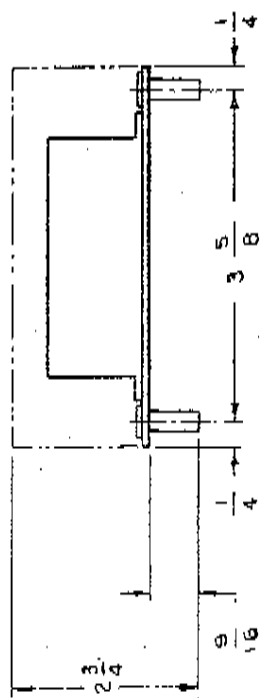
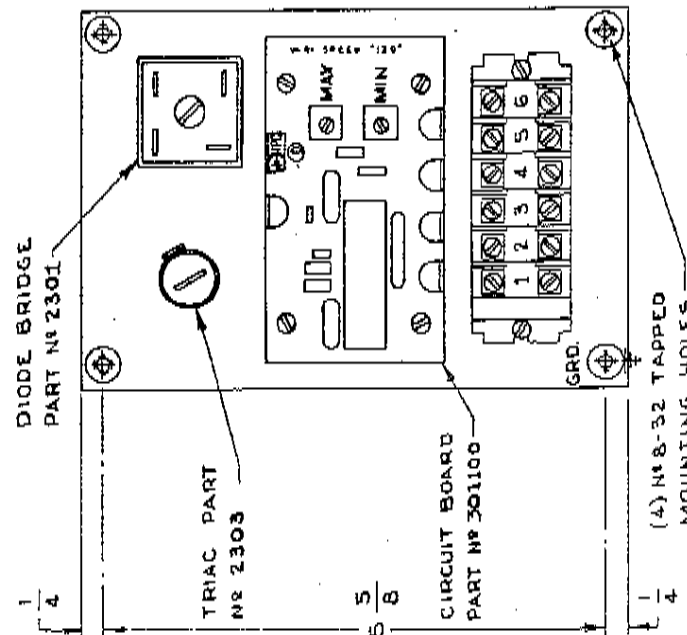
SWITCH REVERSING MOTOR

A DOUBLE POLE DOUBLE THROW SWITCH OR RELAY CAN BE USED TO REVERSE MOTOR ROTATION.

CAUTION: ALWAYS BE SURE MOTOR HAS COME TO A COMPLETE STOP BEFORE REVERSING ROTATION. MOTOR CAN BE PERMANENTLY DAMAGED IF REVERSED WHILE ROTATING

OPTION C

SUGGESTED FUSE SIZE	HP
3 AMP SLO BLO	1/8
4 AMP SLO BLO	1/4
5 AMP SLO BLO	3/8
8 AMP SLO BLO	1/2
10 AMP SLO BLO	3/4
15 AMP SLO BLO	1



SUGGESTIONS BEFORE WIRING

WIRE SIZE AND TYPE: #14 GA. OR LARGER SHOULD BE USED FOR AC AND DC LINES. CLASS A INSULATION IS SUGGESTED.

CODE REQUIREMENTS: 1. A SEPARATE FUSED DISCONNECT OR CIRCUIT BREAKER MUST BE SUPPLIED, BY USER, ON THE INCOMING AC POWER TO THE CONTROLLER.

2. BE SURE TO GROUND THE CONTROLLER AS SHOWN IN ADJACENT DRAWING.

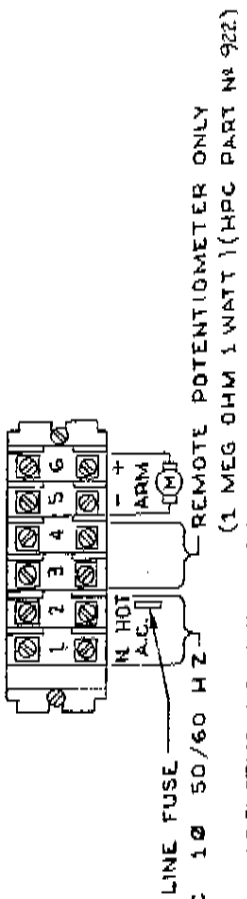
MOUNTING INSTRUCTIONS: FOR THE BEST PERFORMANCE OF YOUR CONTROLLER MOUNT IN A VERTICAL POSITION WITH FREE AIR FLOW AROUND THE CONTROLLER. THIS IS TO ALLOW THE HEAT GENERATED BY THE CONTROLLER TO DISSIPATE INTO THE ATMOSPHERE.

SPECIFICATIONS

ENCLOSURE: PANEL MOUNTING NEMA I

POWER REQUIREMENT: 115 VAC 1 ϕ 50/60 HZ (VARIATION +12% -20%)

WIRING DIAGRAM



ADJUSTMENTS AFTER START UP

MAXIMUM SPEED ADJUSTMENT (IF REQUIRED)

THIS SETTING HAS BEEN FACTORY ADJUSTED. HOWEVER, IF A HIGHER OR LOWER SETTING IS REQUIRED, FOLLOW THESE STEPS:

1. CONNECT MOTOR TO FULLY LOADED CONDITIONS AND ALLOW 30 MINUTE WARM UP (MOTOR WILL INCREASE IN SPEED AS IT WARMS UP)

2. WITH MOTOR RUNNING AND FRONT PANEL SPEED ADJUSTMENT TURNED TO 100%, TURN MAXIMUM SPEED ADJUST (LOCATED ON PRINTED CIRCUIT BOARD) UP OR DOWN UNTIL DESIRED MAXIMUM SPEED IS ACHIEVED.

MINIMUM SPEED ADJUSTMENT (IF REQUIRED)

THIS SETTING HAS BEEN FACTORY ADJUSTED. HOWEVER IF A HIGHER OR LOWER SETTING IS REQUIRED, FOLLOW THESE STEPS:

1. REPEAT STEP 1 UNDER MAXIMUM SPEED ADJUSTMENT.

2. WITH MOTOR RUNNING AND FRONT PANEL SPEED ADJUSTMENT TURNED TO "0" TURN MINIMUM SPEED ADJUST (LOCATED ON PRINTED CIRCUIT BOARD) UP OR DOWN UNTIL DESIRED SETTING IS ACHIEVED.

SWITCH REVERSING MOTOR:

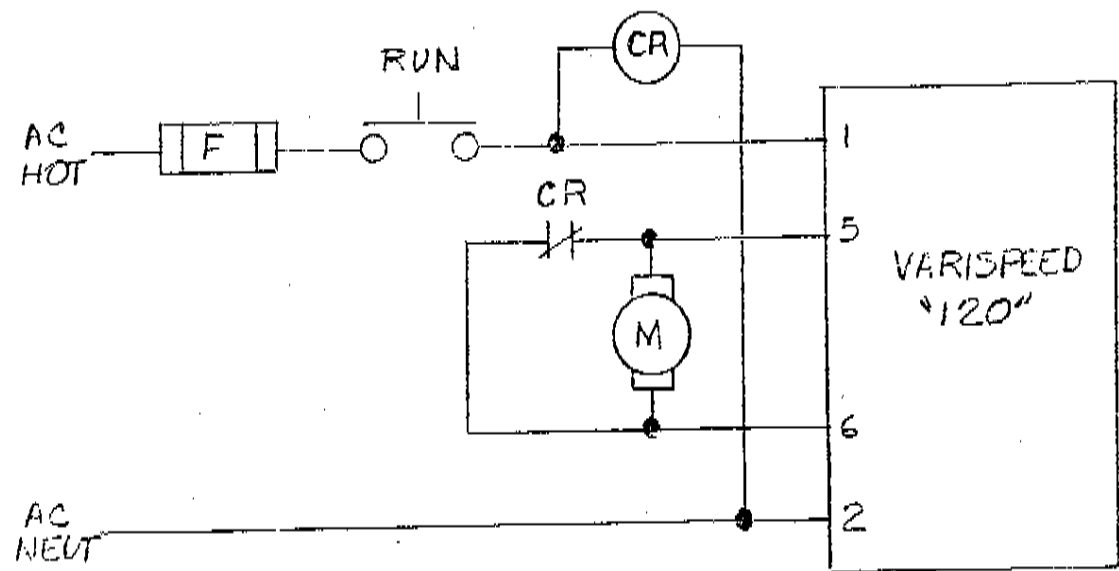
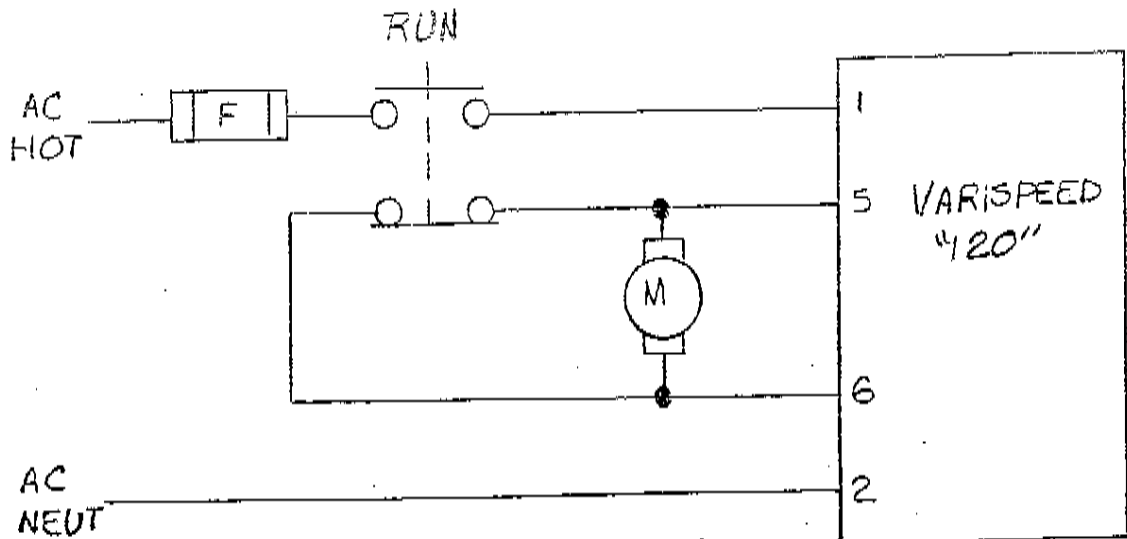
A DOUBLE POLE DOUBLE THROW SWITCH OR RELAY CAN BE USED TO REVERSE MOTOR ROTATION.

CAUTION:

ALWAYS BE SURE MOTOR HAS COME TO A COMPLETE STOP BEFORE REVERSING ROTATION. MOTOR CAN BE PERMANENTLY DAMAGED IF REVERSED WHILE ROTATING.

VARI SPEED 120 WIRING APPLICATIONS INDEX

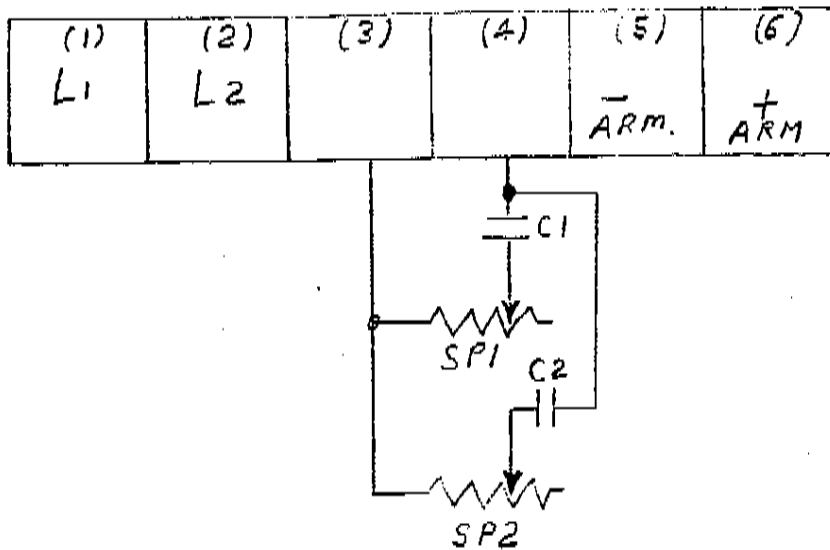
<u>DRAWING NO.</u>	<u>TITLE</u>	<u>PAGE NO.</u>
AP202	Vari Speed 120 Application-----	D301
AP152	Vari Speed 120 Two Speed Application-----	D302
AP138	Vari Speed 120 Switching Two Speeds With Relay Contacts-----	D303
AP200	Application Of Vari Speed 120 To Cycling Systems-----	D304
AP203	Vari Speed 120 Cycling Forward & Reverse With Timer-----	D305
AP120	Vari Speed 120 300150-S1 As A Vibratory Feed Control	D306



VARI SPEED 120 APPLICATION

AP-202

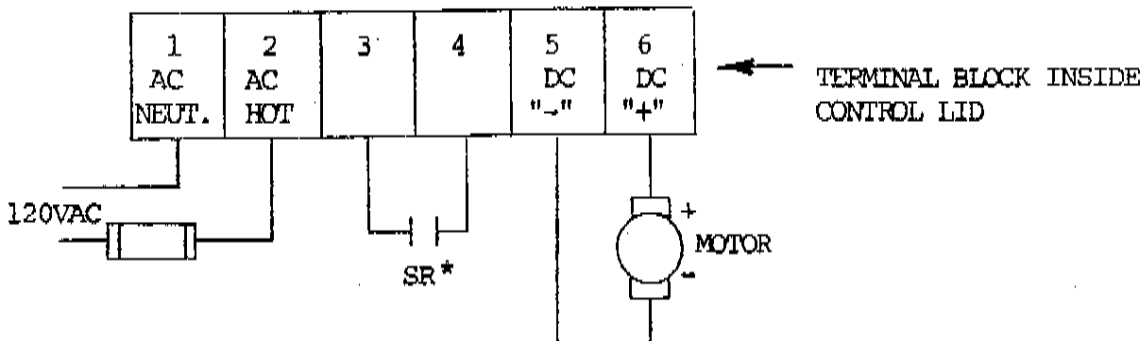
VARISPEED "120"



FOR TWO SPEED OPERATION SWITCH FROM SP1
TO SP2.

VARI SPEED 120 TWO SPEED APPLICATION

AP-152



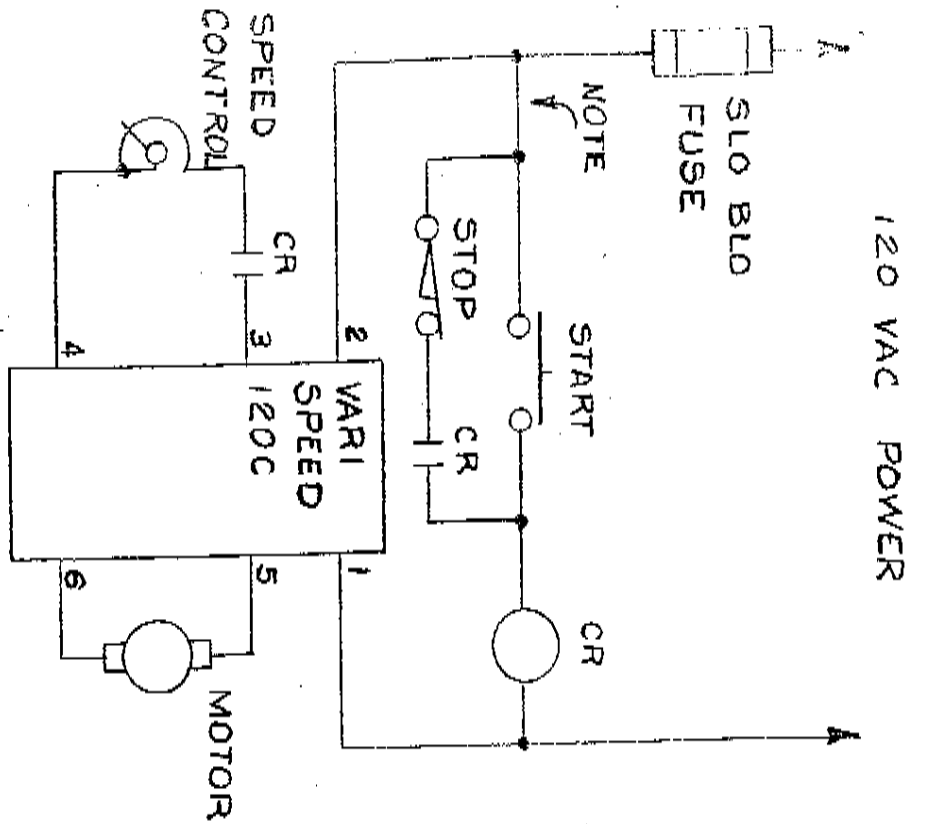
OPERATION AND SET UP:

- WITH SR RELAY CONTACTS OPEN;
ADJUST MINIMUM DESIRED MOTOR SPEED WITH MIN. SPEED TRIM POT. ON CIRCUIT BOARD.
- WITH SR RELAY CONTACTS CLOSED;
ADJUST MAXIMUM DESIRED MOTOR SPEED WITH MAX. SPEED TRIM POT. ON CIRCUIT BOARD.
- SR RELAY WILL NOW SWITCH SPEED FROM MAXIMUM SET SPEED TO MINIMUM SET SPEED.

* SR= SPEED SWITCHING RELAY. REMOVE 1 MEG SPEED POT FROM TERMINALS 3 & 4 AND WIRE RELAY CONTACTS IN PLACE.

VARI SPEED 120 SWITCHING TWO SPEEDS
WITH RELAY CONTACTS

AP-138

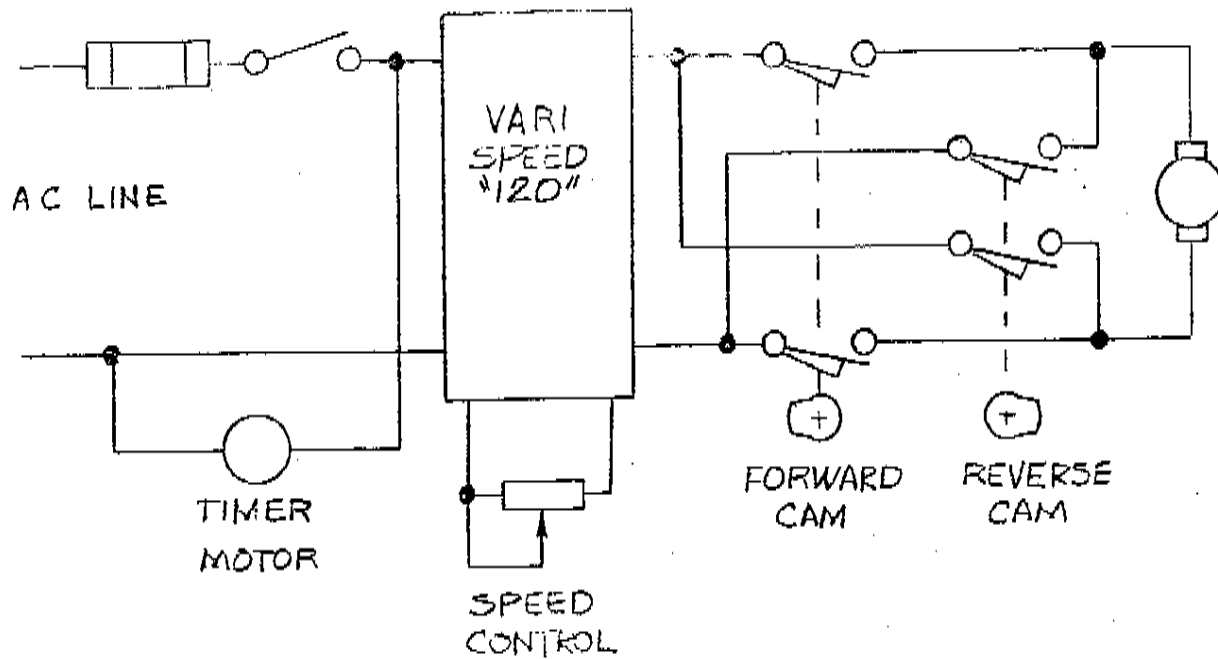


NOTE: NORMALLY CLOSED SAFETY SWITCH COULD BE ADDED TO CIRCUIT HERE.

RECOMMENDED FUSE SIZES: USE SLO BLO.	
HP	AMPS
1/8	2
1/4	4
1/3	5
1/2	8
3/4	12
1	15

APPLICATION OF VARI SPEED 120 TO CYCLING SYSTEMS

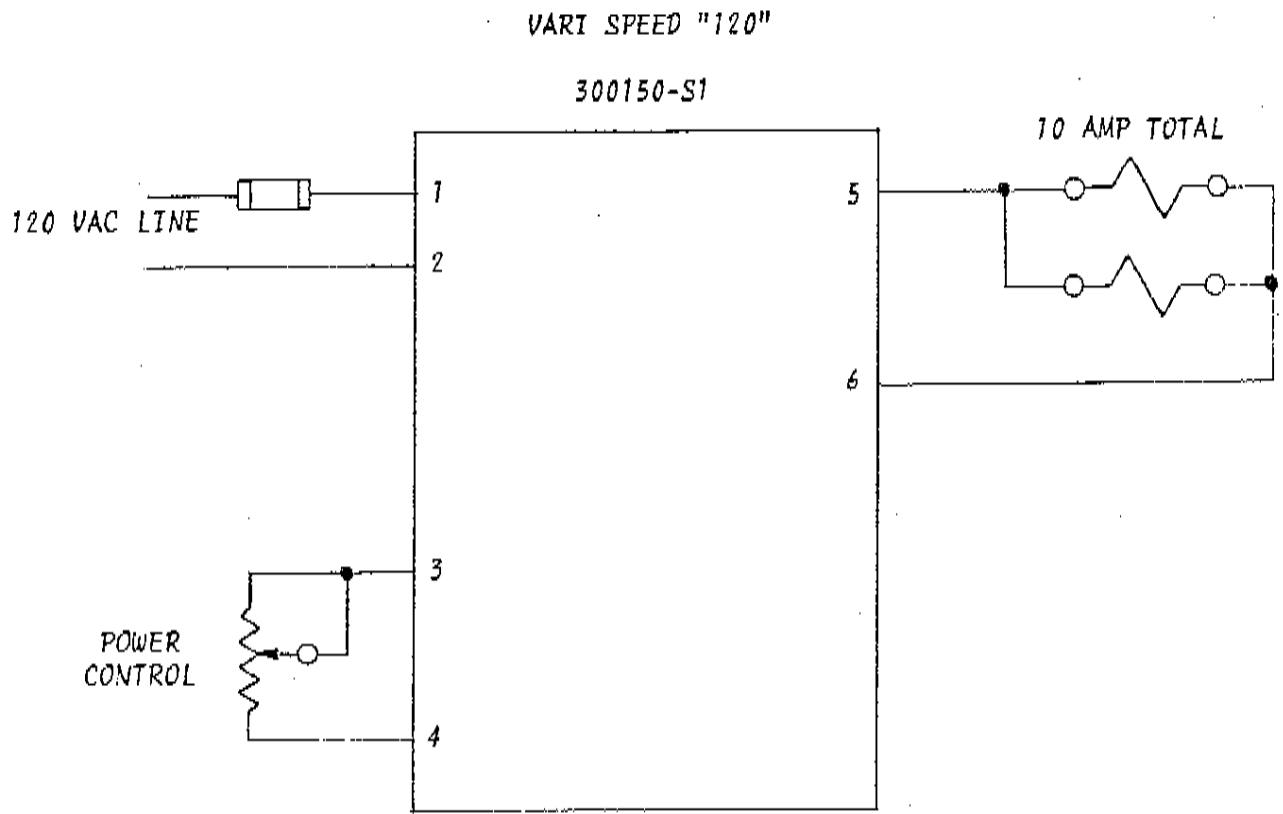
AP-200



TIMER MUST BE SET UP WITH ENOUGH TIME FOR THE MOTOR TO COME TO A STOP BEFORE CONTACT CLOSURE FOR OPPOSITE ROTATION.

VARI SPEED 120 CYCLING
FORWARD & REVERSE WITH TIMER

AP-203



VARI SPEED 120 300150-S1 AS A
VIBRATORY FEED CONTROL

AP-120