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STARTMASTER  
 SOFT START MOTOR CONTROLLER

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 MAY 1982

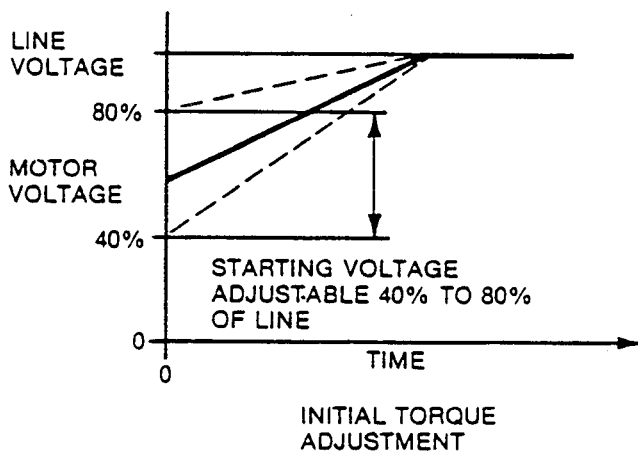
**INSTRUCTIONS**

The Robbins & Myers' STARTMASTER is designed to perform a smooth, stepless, reduced voltage (soft) start on a 6 HP or less, three phase induction motor. The control simply connects between the motor starter and the motor. The phase sequence is consistent throughout; that is a phase sequence of A-B-C on LL1-LL2-LL3 produces a phase sequence of A-B-C on T1-T2-T3. The control is not phase rotation sensitive, and is suitable for reversing applications.

The STARTMASTER also incorporates external reset terminals which can be used for stopping and resetting the soft start ramp. In normal operation, the reset terminals must be shorted together either with the factory installed jumper, or with an external, isolated, normally open contact with a 600 volt rating to allow the motor to run. To reset the soft start ramp, the contacts must be open for 30ms minimum. This feature is especially useful for soft plug reversing.

**SOFT START ADJUSTMENT**

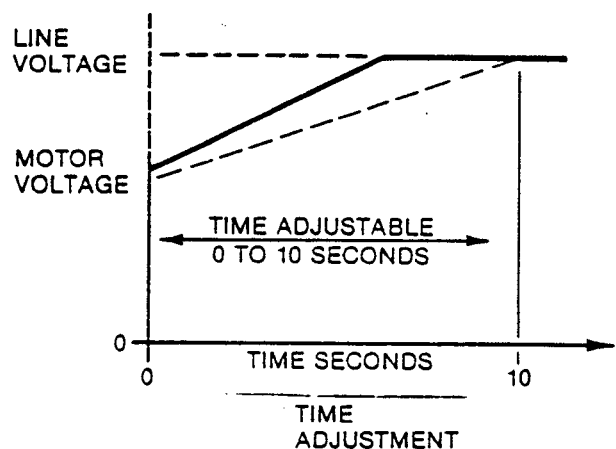
The reduced voltage start is controlled by two potentiometers on the unit. The "initial torque" adjustment sets the voltage that is first applied to the motor when power is applied. This is adjustable from 40% to 80% of line voltage. The "time" adjustment controls the length of time it takes to go from the initial torque voltage to full line voltage. This is adjustable from 0 to 10 seconds.



**INSTALLATION**

**CAUTION!** All connections and all adjustments must be made with the power disconnected. High voltage electrical shock and injury may result if this warning is disregarded.

1. Remove unit from carton and inspect for any signs of shipping damage.
2. Wiring for a single speed motor is accomplished as indicated on the wiring diagram, with the control being connected between the motor starter and the motor.
3. If a brake is provided, it must be connected to the input terminals of the STARTMASTER as shown. Line voltage brake coils must be used.
4. The terminals on the control are designed to accept #10-#16 AWG solid or stranded wire.
5. Adjustment—Two readily accessible adjusting screws, one for torque, and the other for time, are provided. To adjust: 1). turn start time adjustment full counterclockwise; 2). set torque adjustment so that motor shaft starts to rotate slowly at moment of switching—to increase starting torque, turn this adjustment clockwise; 3). set acceleration adjustment to desired rate of increase—to increase rate, turn this adjustment clockwise.
6. Unmounted units must be installed in an enclosure to provide protection against accidental contact with electrical components and to protect electronic device from excessive dirt or other harmful environmental elements.



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**ELECTRICAL DATA**

Line Voltage Variations:  $\pm 20\%$  of nominal  
 Temperature: minimum  $-20^{\circ}\text{C}$   
 maximum  $45^{\circ}\text{C}$

Humidity: 10% to 95%

Motor Size: (Refer to Fig. 1) Two identical motors may be connected in parallel where the total does not exceed the controller rating

**Soft-Start Adjustments:**

Initial Torque: 40% to 80% of line voltage

TIME: 0-10 seconds from initial torque voltage to line voltage.

Voltage	Rating*	
	Continuous	
	50°C	Crane Duty
230V	8 amp	20 amp 5 HP
380V	4 amp	12 amp 5 HP
460V	4 amp	12 amp 6 HP
575V	4 amp	12 amp 6 HP

\*Ratings based on normal atmospheric conditions, reasonably free from excessive dust, moisture and corrosive fumes. Crane rating based on typical class C service and  $45^{\circ}\text{C}$  ( $115^{\circ}\text{F}$ ) ambient temperature.

FIG. I

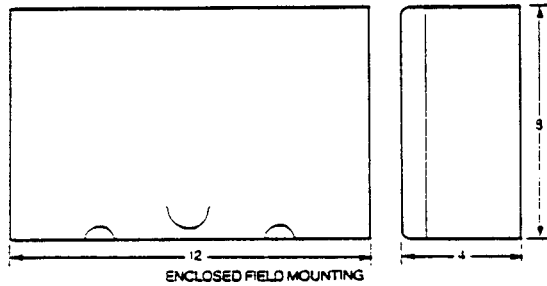


FIG. II

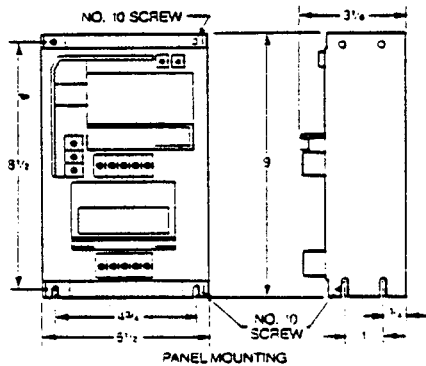


FIG. III

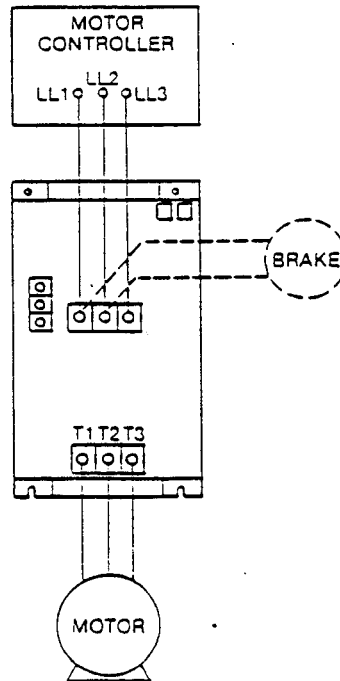


FIG. IV