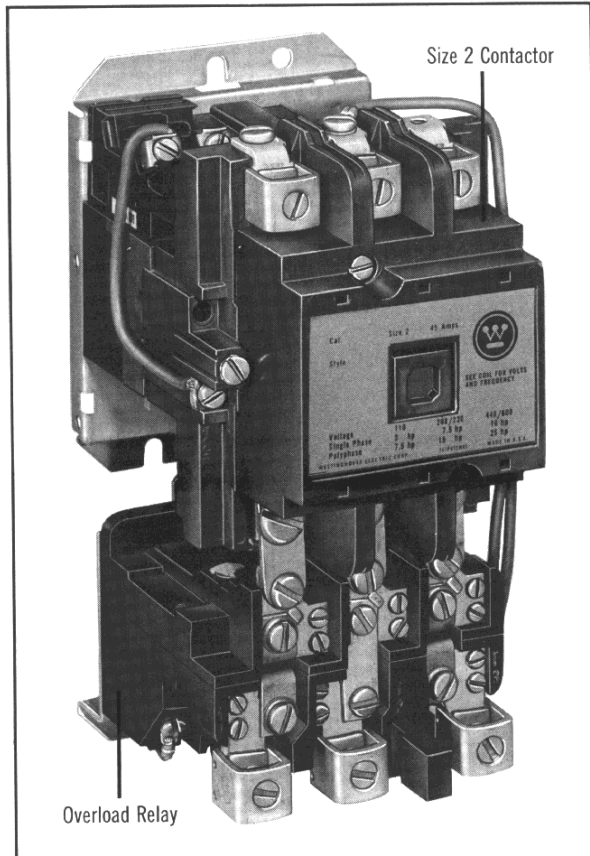


Instructions For A/200 Size 2, Motor Controller with Block Type Overload Relay



I.L. 13191-B
File 8200



Size 2, A/200 Motor Controller

The Controller

The Westinghouse A/200 Motor Controller, when wired as shown, will operate as a full voltage starter and will give protection against overload (but not against short circuit currents) when provided with overload heaters as listed in the Heater Application Tables or when used with any means of inherent protection activated by motor temperature.

The starter should be protected against short circuits by fuses not exceeding four

times the rated motor current, by a circuit breaker set at not more than four times the full motor current.

The A/200 Motor Controller complete is identified by Catalog Number.

The coil style number is marked on the end of the coil along with the voltage and frequency rating.

Coil

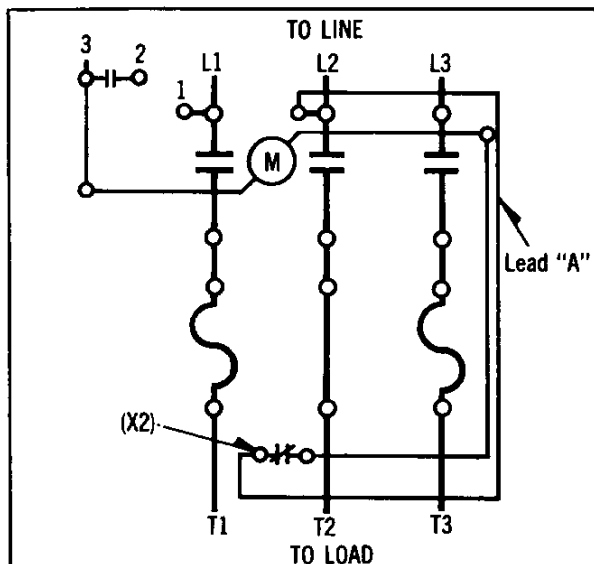
The A/200 Motor Controller is available with single or dual voltage coil. When supplied with a dual voltage coil, the motor controller is normally wired for the high voltage (HV) connection.

Overload Relay

This A/200 Motor Controller is equipped with a block type overload relay mounted below the contactor unit. The relay is a non-compensated bimetal actuated type equipped with a trip indicator, trip adjustment covering $\pm 15\%$ of rating, normally closed control contact, and may be operated with either hand or automatic reset. A STOP function is not provided in this relay. See I.L. 13193 for more complete information.

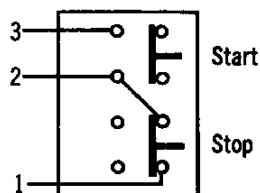
Type of operation is determined by the position of the reset plate on the load side of the overload relay base. The "Hand" position is set when the reset plate is positioned away from the panel. To set for "Auto" operation; loosen the locking screw; move the reset plate toward the panel, and retighten the screw. Automatic reset should not be used with 2-wire master switch.

A temperature compensated block type overload relay is also available.

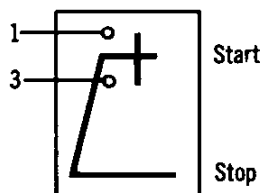


Notes:

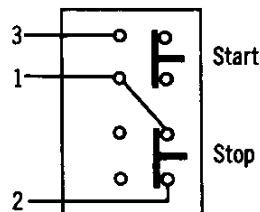
1. For Separate Control Remove Lead "A" Connect One Lead of Separate Control Circuit to OL Relay Terminal "X2" Where Lead "A" Was Removed & Other Lead to Term "1" of PB Station or Master SW. (If Starter is Wired for Separate Control at Factory, Connect Control Supply Leads to Terminal "X2" and Terminal "1" of PB Station.)
2. Customer Should Disregard All Schemes Except the One Used in Connecting His Equipment.



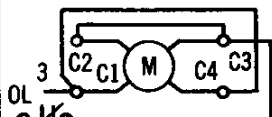
Scheme No. 1
LVP with 3 Wire PB
"Start-Stop" Operation



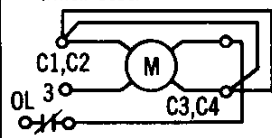
Scheme No. 2
LVR with 2 Wire PB
"Start-Stop" Operation



Scheme No. 3
LVP with 3 Wire PB. The Stop
Button Having A Mechanical
Latch — "Start-Stop-Inch"
Operation. To Inch, Latch "Stop"
Button Down and Operate
"Start" Button



Dual Voltage Coil
Connected for Low Voltage
(When Used)



Dual Voltage Coil
Connected for High Voltage
(When Used)

Heaters

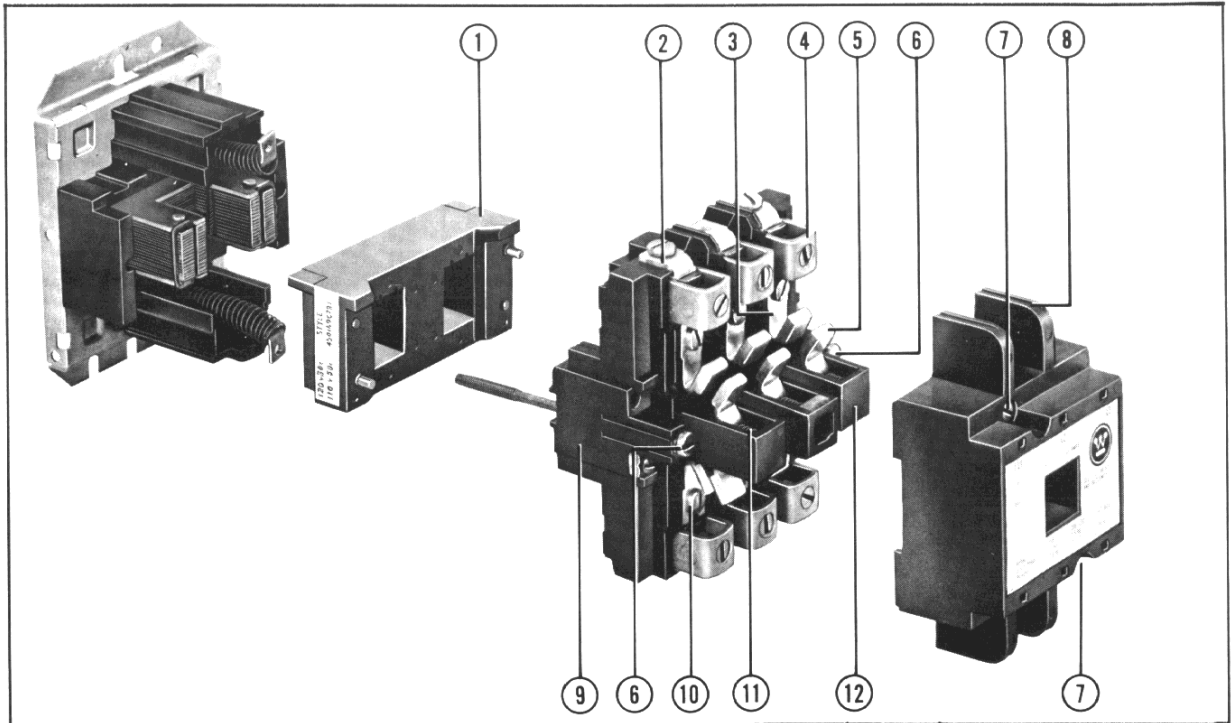
Heaters are not included with the motor controller and must be ordered separately per the heater application table and the selection information listed below. When installing heaters be sure that connecting surfaces are clean and heaters are attached securely to the relay in the proper location with the screws provided. The trip rating of a heater at 40°C Ambient is 125% of the minimum full load current.

Heaters should be selected on the basis of the motor nameplate rating. The heater application table indicates the range of full load motor current to which a given heater may be applied. When motor and controller are in the same ambient the data listed in the table provide 40°C rated motors or those with a service factor of 1.15 to 1.25 with 115% to 125% protection. For 50°C or 55°C rated motors, those with a 1.00 service factor, or where a maximum of 115% protection is desired, select one size smaller heater than indicated. When motor and controller ambients differ, select heaters from the table using adjusted motor currents as follows: decrease rated motor current 1% for each °C motor ambient exceeds controller ambient; increase rated motor current 1% for each °C controller ambient exceeds motor ambient. For temperature compensated overload relays select heaters according to the table and selection information above regardless of ambient. Protect the heater against short circuits by providing branch circuit protection per National Electric Code but not to exceed the maximum fuse ratings listed in the table.

Electrical Interlocks - L56

An L-56 with a Normally Open pole is supplied as the Standard holding interlock and is mounted in the upper left hand corner recess of the contactor. L-56 interlock: Style No. 503C782G01, with universal poles (one normally open and one normally closed pole) are standard replacement interlocks.

A maximum of four interlock units can be installed in the recesses of each contactor.



A/200 Motor Controller Components (Relays not Shown)

Maintenance

FIRST TURN OFF POWER

To inspect contacts -

Loosen the two arc box assembly screws (7) located immediately above and below the nameplate and remove arc box (8). Contacts are visible.

To replace contacts -

After removing arc box, and having replacement contacts at hand, remove the moving contact carrier (5) by compressing the overtravel spring (11) and displacing carrier from crossbar (12). Stationary contact carriers (3) are removed by only loosening the retaining screw (10) and sliding out the carrier.

To replace contact carriers, reverse above procedure, making sure that stationary carriers are secure, moving carriers are free to move, overtravel springs are seated and crossbar moves freely when arc box is in position.

The silver-cadmium oxide contact buttons need no dressing or lubricant throughout their life.

IMPORTANT - Replace all contacts as a group to avoid misalignment.

To replace the coil -

Loosen the assembly screws (6) located to the immediate left and right of the arc box.

Pull loosened upper base structure forward. Pull coil (1) from the upper base, plug in new coil, replace upper base structure and check interlocks for secureness when repositioning upper base.

Tighten assembly screws (6) and secure all control and power cables.

Magnet - Armature Assembly

Self alignment and permanent air gap features of the magnet-armature make replacement maintenance unnecessary. Mating pole face surfaces should be kept clean.

Renewal Parts

A. Contact Carrier Kit

Pole Combination	Style Number
2 Pole	373B331G11
3 Pole	373B331G12

B. L-56 Electrical Interlock

One Universal Interlock (NO and NC poles)
S#503C782G01.

C. Coil

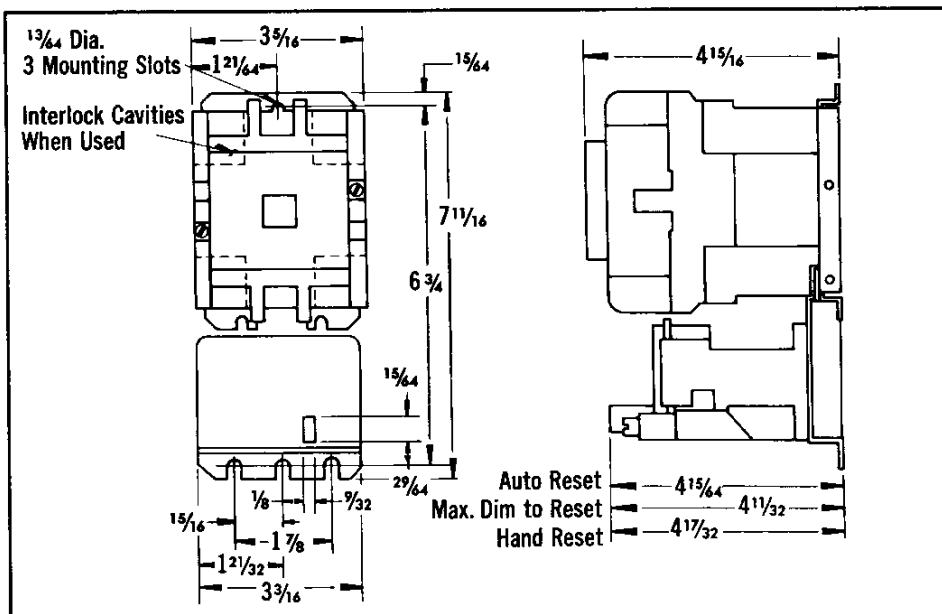
Order by style number, voltage and frequency.

Table 1 Motor Ratings - Horsepower						
NEMA Size	Three Phase			Current Ratings Amperes	Coil Volt Amp 60 Cy. 2, 3 & 4 Pole	
	110 Volts	220 Volts	440/600 Volts		Open VA	Closed VA
	15	15	25		160	25

HEATER APPLICATION TABLE

Ambient Compensated and Non-Compensated

Code Marking	Full Load Current of Motor (Amperes) (40°C Ambient)	Max. Fuse Rating (Amps)
H27	3.00 - 3.28	12
H28	3.29 - 3.60	12
H29	3.61 - 3.95	15
H30	3.96 - 4.31	15
H31	4.32 - 4.71	15
H32	4.72 - 5.14	20
H33	5.15 - 5.6	20
H34	5.7 - 6.2	20
H35	6.3 - 6.8	25
H36	6.9 - 7.5	30
H37	7.6 - 8.2	30
H38	8.3 - 9.0	35
H39	9.1 - 9.9	35
H40	10.1 - 10.8	40
H41	10.9 - 11.9	45
H42	12.0 - 13.1	50
H43	13.2 - 14.3	50
H44	14.4 - 15.7	60
H45	15.8 - 17.2	60
H46	17.3 - 18.9	70
H47	19.0 - 20.8	80
H48	20.9 - 22.9	90
H49	23.0 - 25.2	100
H50	25.3 - 27.6	110
H51	27.7 - 30.3	110
H52	30.4 - 33.3	125
H53	33.4 - 36.4	125
H54	36.5 - 39.9	150
H55	40.0 - 43.9	175
H56	44.0 - 48.2	175



Dimension Drawing

Westinghouse Electric Corporation

Standard Control Division, Beaver, Pa.

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