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RCP200 Series 1/4 - 5 HP Regenerative DC Motor Controls

The Regenerative Control Package RCP200 Series of D.C. motor controls provides full wave four quadrant regenerative speed or torque control for 1/4 through 5 HP shunt wound and permanent magnet D.C. motors. Designed for performance and quality, but remaining versatile and functional, the RCP200 Series provides the OEM and panel builder with maximum design capability.

Two units cover the full horsepower range. Also, three contactor models are available with armature contactor, dynamic braking and start/stop logic.

Innovative design techniques have eliminated normal problem areas often associated with multi-bridge designs necessary for regenerative control. These design techniques combined with features such as control circuit isolation and four quadrant Acceleration/Deceleration result in a motor control possessing the highest level of flexibility, safety and performance.

Standard Features

- Inner current loop for fast, stable response to load change
- Metal film resistors and cermet pots for temperature stability
- I.C. regulated power supplies
- High frequency multi-pulse gating
- Conservative power module rating
- R-C decoupling of signal level inputs for superior noise rejection
- A.C. line fuses
- Line Mov and snubber for transient protection
- Functional terminal strip labeling and logical P.C. board layout



- Control Circuit Isolation – allows connection to non-isolated reference and/or tachometer input signals
- Independent adjustable linear acceleration and deceleration in both the forward and reverse direction
- Independent max speed for forward and reverse direction
- Independent current limit for forward and reverse direction (up to 190%)
- Deadband adjustment
- Adjustable IR compensation
- Current range selectable by jumper
- Speed/torque mode selectable by jumper
- Armature or tachometer feedback selectable by switch
- 7 or 50 VDC per thousand RPM tach feedback selectable by jumper

Specifications

A.C. Input

- 115 VAC \pm 10%, 50/60 HZ \pm 2 HZ
- 230 VAC \pm 10%, 50/60 HZ \pm 2 HZ

Armature Output

0- 90 VDC @ 115 VAC input
 0- 180 VDC @ 230 VAC input

Field Output

100 VDC @ 1 amp max. for 115 VAC input
 200 VDC @ 1 amp max. for 230 VAC input

Horsepower Range**Model RCP202 Series**

1/4 – 1 HP @ 115 VAC input
 1/2 – 2 HP @ 230 VAC input

Model RCP205 Series

1/4 – 1 HP @ 115 VAC input
 1/2 – 5 HP @ 230 VAC input

Speed Regulation

Armature feedback: $\pm 1.0\%$ of base speed
 Tachometer feedback: $\pm 0.5\%$ of base speed

Torque Regulation

$\pm 2\%$ of range selected

Adjustments

- Max speed: -20 to +10% of full base speed
- Current limit: 0 to 190% of current range
- IR Compensation: range set by current range jumper
- ACCEL and DECEL: linear, independently adjustable forward and reverse, 2 ranges, 1-5 sec. or 4-40 sec.

Speed range

20:1, motor dependent

Temperature

Chassis – 0 to 55 C
 Enclosed – 0 to 40 C

Isolated Control Circuit

Standard Models and Descriptions

115 VAC Input	230 VAC Input	Model Number	Description	Approx. Shpg. Wt.	Dim.	Conn.
1/4 - 1 HP	1/2 - 2 HP	RCP202-000	Chassis Only, Basic Model	9 lbs.	Fig. F.1	Fig. F.3
1/4 - 2.5 HP	1/2 - 5 HP	RCP205-000	Chassis Only, Basic Model	9 lbs.	Fig. F.1	Fig. F.3
1/4 - 1 HP	-	RCP202-BC1	Armature Contactor Chassis Model with Start, Stop and D.B.	18 lbs.	Fig. F.2	Fig. F.4
-	1/2 - 2 HP	RCP202-BC2	Armature Contactor Chassis Model with Start, Stop and D.B.	18 lbs.	Fig. F.2	Fig. F.4
-	1/2 - 5 HP	RCP205-BC2	Armature Contactor Chassis Model with Start, Stop and D.B.	18 lbs.	Fig. F.2	Fig. F.4

Dimensions

Chassis Only Models

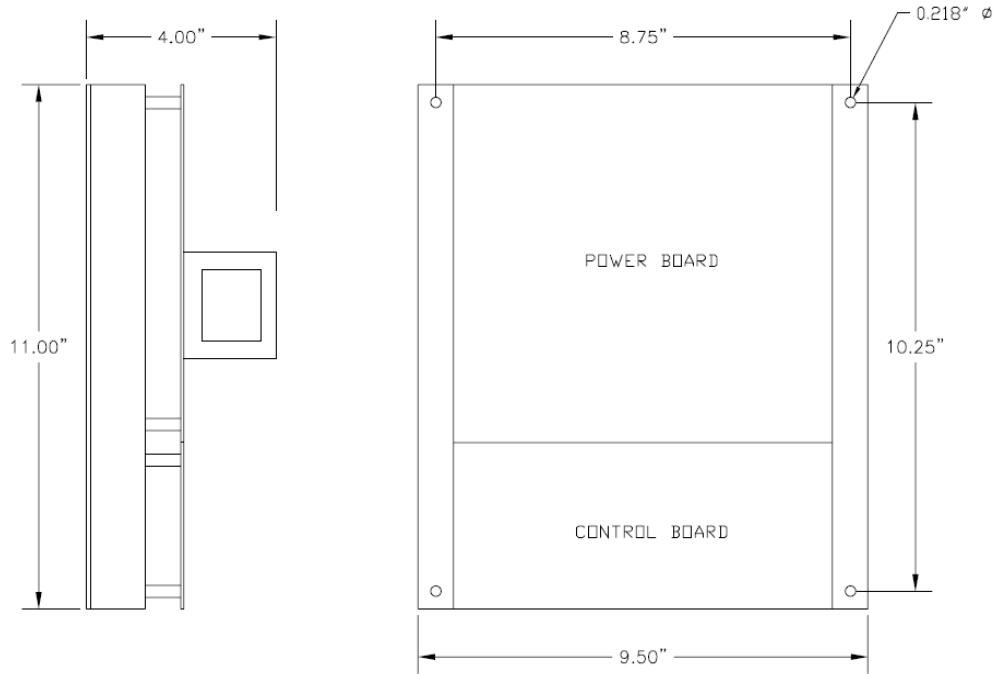


Fig. F.1

Contactors Models

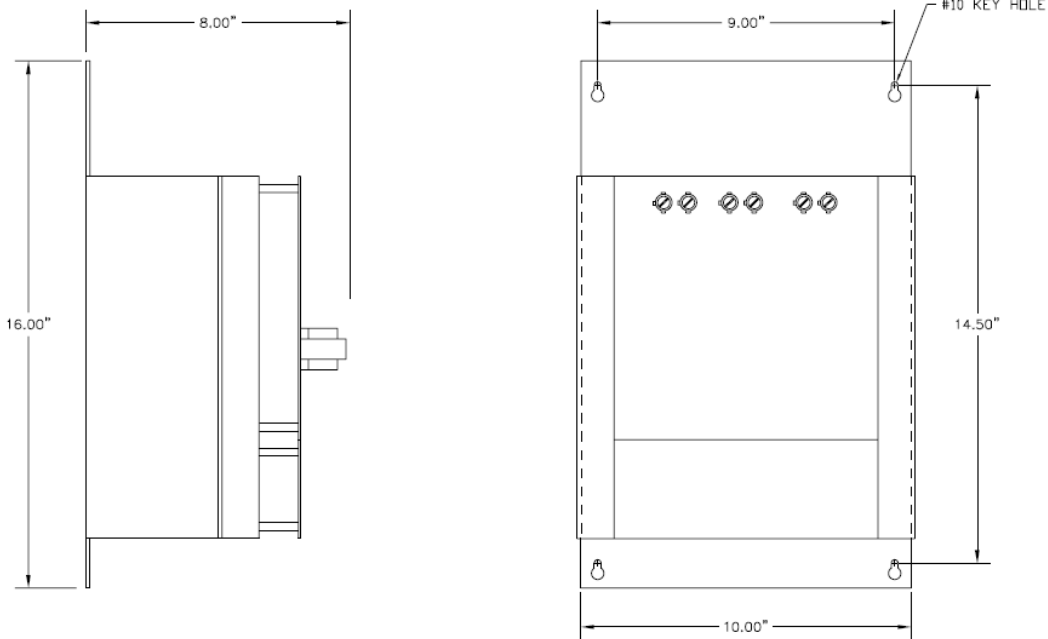


Fig. F.2

Connections

Chassis Only Models

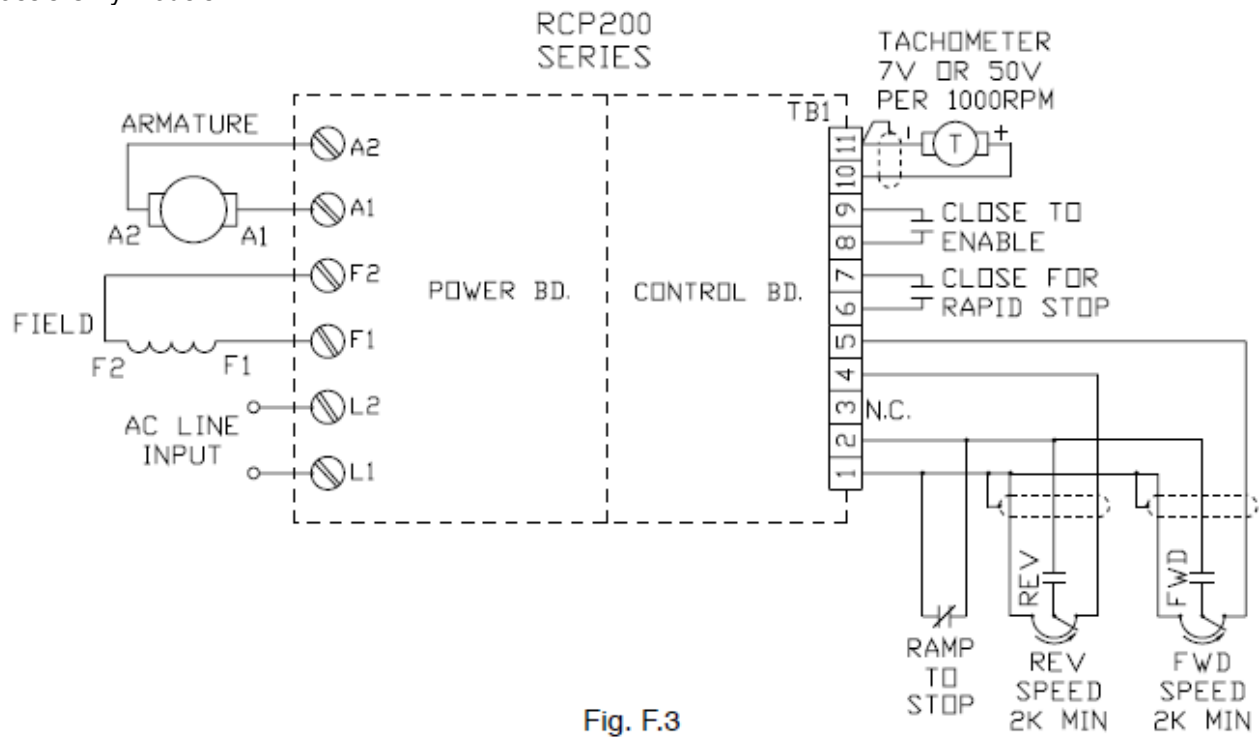


Fig. F.3

Contactor Models

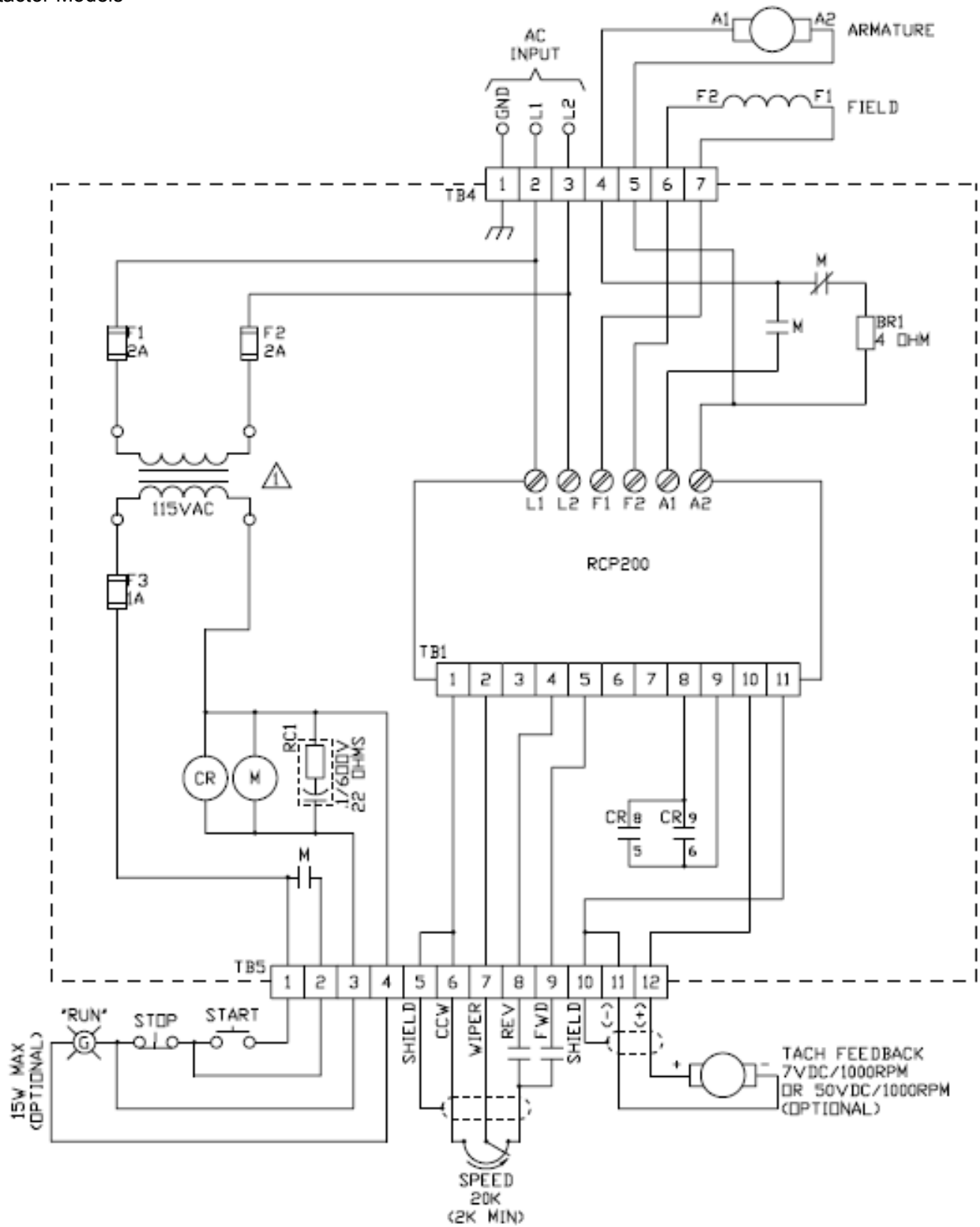


Fig. F.4

RCP200 SERIES 1/4 - 5 HP Regenerative DC Motor Controls

View or download the complete RCP200 Series Instruction Manual (MAN 1006-00) from www.carotron.com .



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