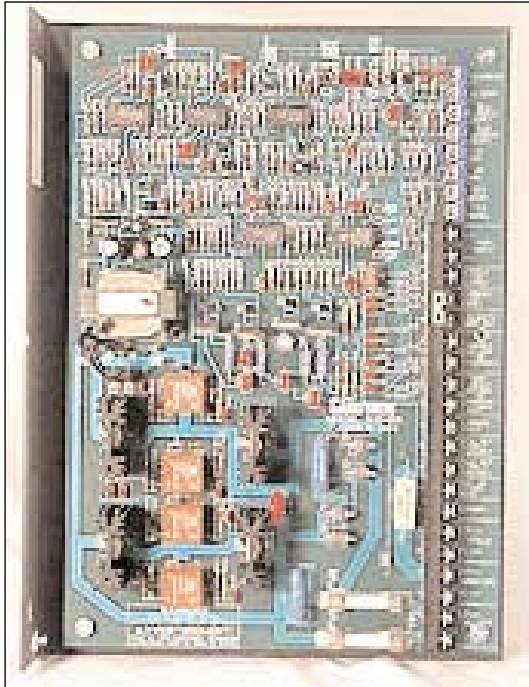


# O.E.M.

## DC Motor Controls

### General Description



**D10425-000**

## D10425-000/200

### 1/8 - 2 HP REGENERATIVE

The Carotron Model D10425-XXX Regen Motor Control provides full range - four quadrant - speed control or torque control of shunt wound or permanent magnet D.C. motors from 1/8 to 2 horsepower. The quality design, superior performance and right angle mounting provides the OEM and panel builder with maximum design capability. Innovative design techniques have eliminated normal problem areas often associated with multi-bridge designs necessary for regenerative control. These design techniques combined with Carotron's standard quality features result in a motor control possessing the highest level of performance.



**E147521**



**C880800-00**

## C880800-00

### 1/8 - 1/4 HP NON-REGENERATIVE

The Carotron Model C880800-00 motor controller provides full range speed control of permanent magnet D.C. motors from 1/8 to 1/4 horsepower. Some standard features of this model are:

- Armature voltage feedback
- On board relay to control starting and stopping.
- A hard firing gating circuit.
- Inner current loop for fast stable response under varying load conditions.
- Metal film resistors and cermet potentiometers for stable operation with fluctuations in temperature.

## Standard Features

### D10425-000/200 Regen

- Operation from 115 or 230 VAC input for 90 or 180 VDC motor armatures.
  - Switch selectable armature voltage or tachometer feedback.
  - 7 or 50 VDC per thousand RPM feedback tachometer input.
  - Independently adjustable Forward and Reverse Acceleration settings. Two time ranges are available for the Forward and Reverse Acceleration adjustments selectable by programming jumper.
  - Single contact stopping by any of three methods:
    1. Coast to stop
    2. Controlled deceleration to stop
    3. Rapid stop (in current limit).
  - UL listing on standard models
- A Summing Input connected directly to the input of the velocity loop which will accept an Isolated Input signal not to exceed  $\pm 10$  VDC.
  - A hard firing, high frequency multipulse gating circuit.
  - I.C. regulated power supplies, metal film resistors and cermet potentiometers for stable operation under varying conditions of temperature and line voltage.
  - On board A.C. line fuses.
  - Oversized power handling components.
  - Line transient suppression by MOV and RC snubber.
  - Inner current loop type control circuit for fast and stable response under varying load conditions.
  - Right Angle type mounting to minimize required chassis area.
  - Speed/torque mode.

## Specifications

### D10425 REGEN

#### A.C. INPUT

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

#### ARMATURE OUTPUT

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

#### FIELD OUTPUT

100 VDC @ 1 Amp for 115 VAC input  
200 VDC @ 1 Amp for 230 VAC input

#### HORSEPOWER RANGE $\Delta$ D10425-000

1/8-1/2 HP @ 90 VDC  
1/4-1 HP @ 180 VDC

#### HORSEPOWER RANGE $\Delta$ D10425-200

1/4-1 HP @ 90 VDC  
1/2-2 HP @ 180 VDC

#### SPEED REGULATION

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

#### SPEED RANGE

20:1, motor dependent

#### TORQUE REGULATION

$\pm 2\%$  of range selected

#### ADJUSTMENTS

- Max speed: 45 to 110% of rated Armature voltage
- Current limit: 0 to 150% of Current Range selected
- Accel: linear, independently adjustable forward and reverse, 2 ranges, 1-4 sec. or 4-25 seconds
- Deadband: Zero to 0.2 volts of Velocity Loop Integrator output
- IR Compensation: range set by current range jumper

#### TEMPERATURE RANGE

Chassis - 0 to 55 C

### C880800-00 NON-REGEN

#### A.C.INPUT

115 VAC  $\pm 10\%$ , 50/60 Hz  $\pm 2$  Hz

#### ARMATURE OUTPUT

0-90 VDC

#### HORSEPOWER RANGE

1/8 - 1/4 HP

### ADJUSTMENTS

- Min: 0 to 25% of full speed
- Max: 80 to 110% of full speed
- Current Limit: 0 to 150% of current range (HP jumper)
- IR Compensation: Range set by current range (HP jumper)

Speed Regulation

Armature Feedback:  $\pm 2\%$  of base speed

Speed Range

20 to 1

Temperature Range

0 - 50 C

## Standard Models and Description

110 VAC input	230 VAC input	Model number	Description	Approx. Shpg. Wt.	Dim.	Conn.
1/8 - 1/2 HP	1/4 - 1 HP	D10425-000	Chassis only, regenerative control	4 lbs.	Fig. A.1	Fig. A.2
1/4 - 1 HP	1/2 - 2 HP	D10425-000	Chassis only, regenerative control	4 lbs.	Fig. A.1	Fig. A.2
1/8 - 1/4 HP	-	C880800-00	Chassis only, non-regenerative control	1 lbs.	Fig. A.3	Fig. A.4

## Dimensions

### D10425-000/200 Regen

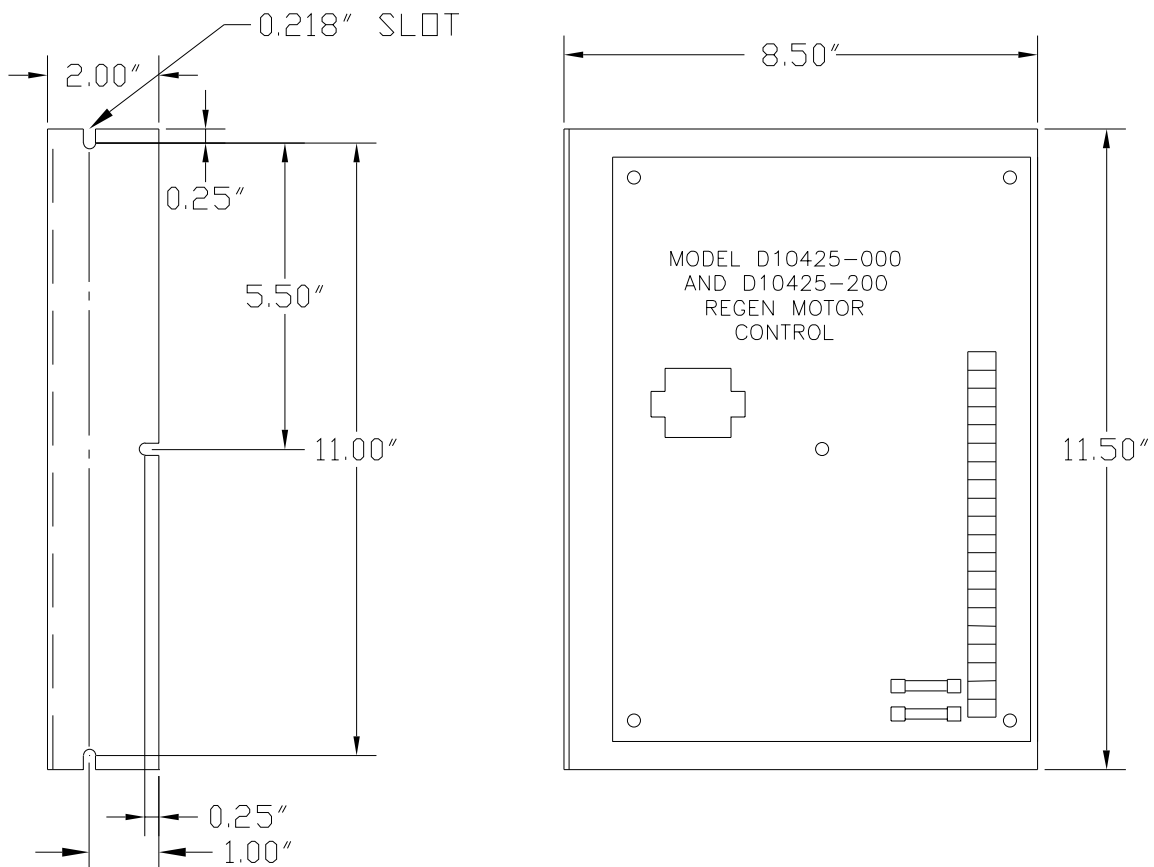


Fig. A.1

# Connections

## D10425-000/200 Regen

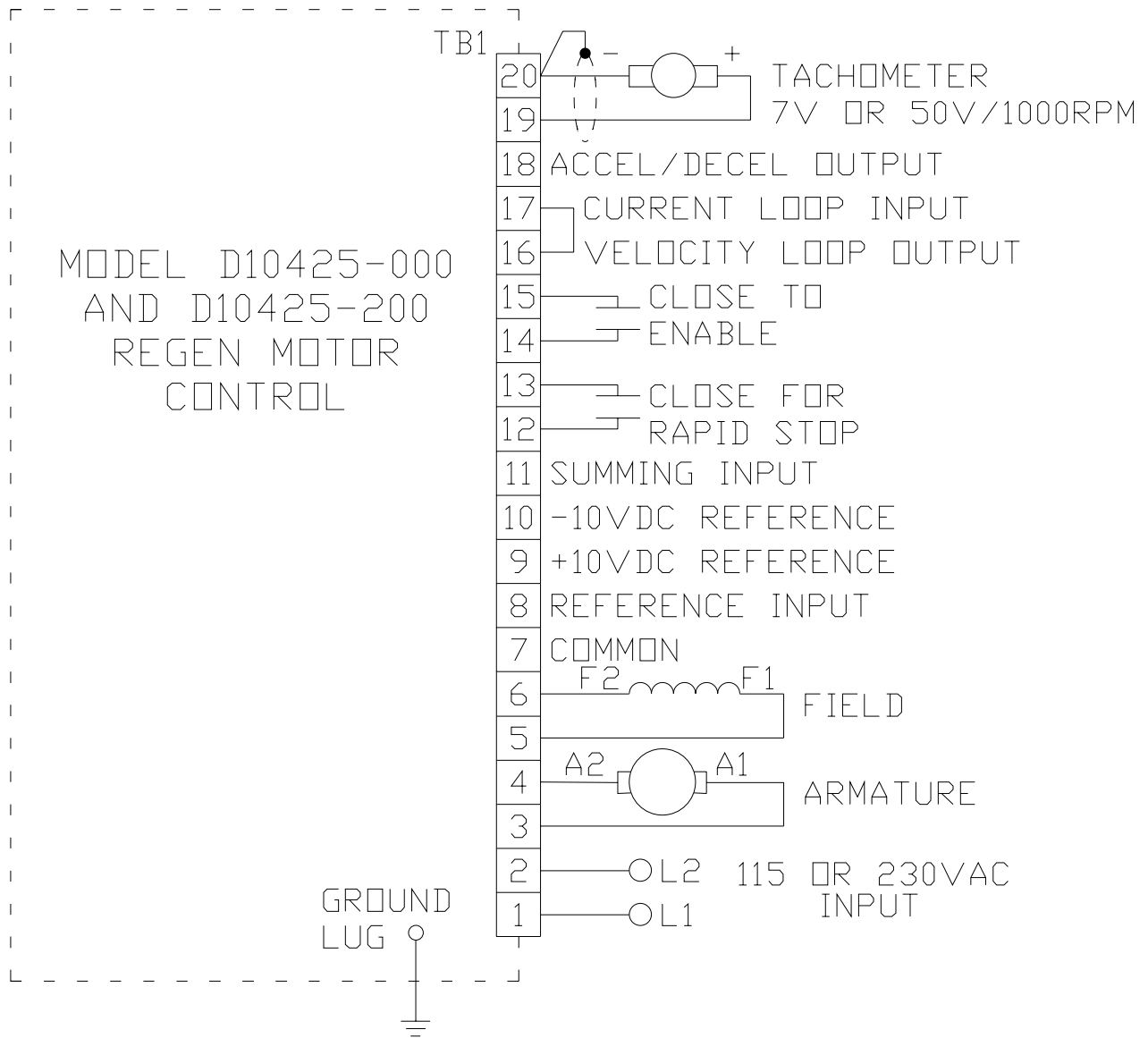


Fig. A.2

# Dimensions

## C880800-00 Non Regen

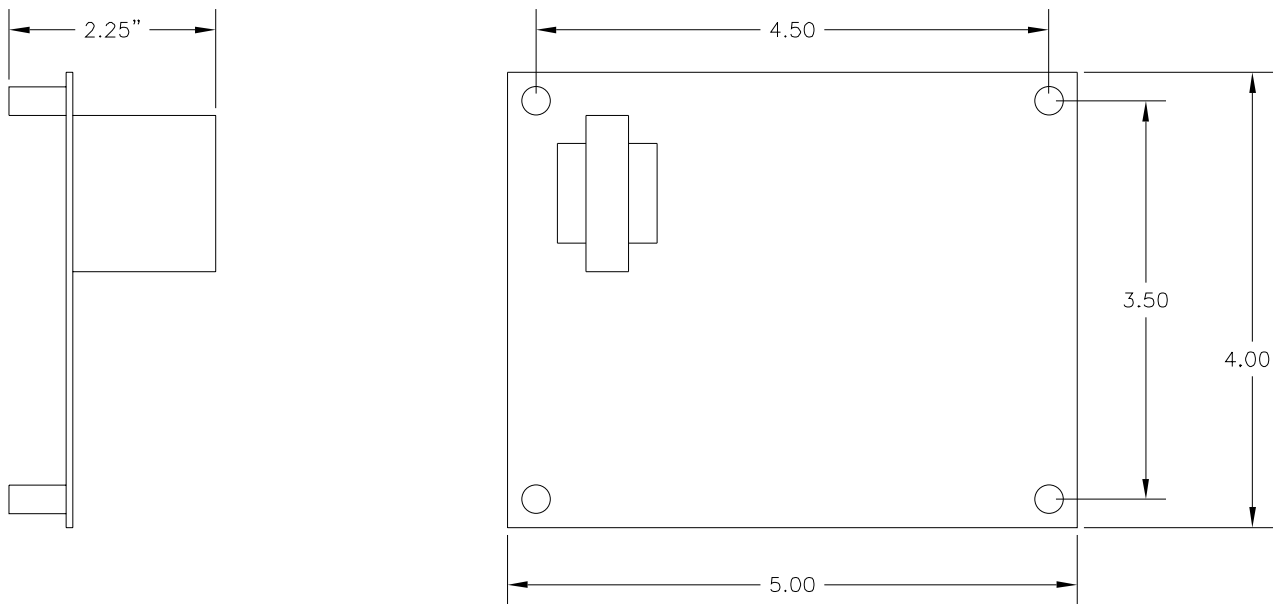


Fig. A.3

# Connections

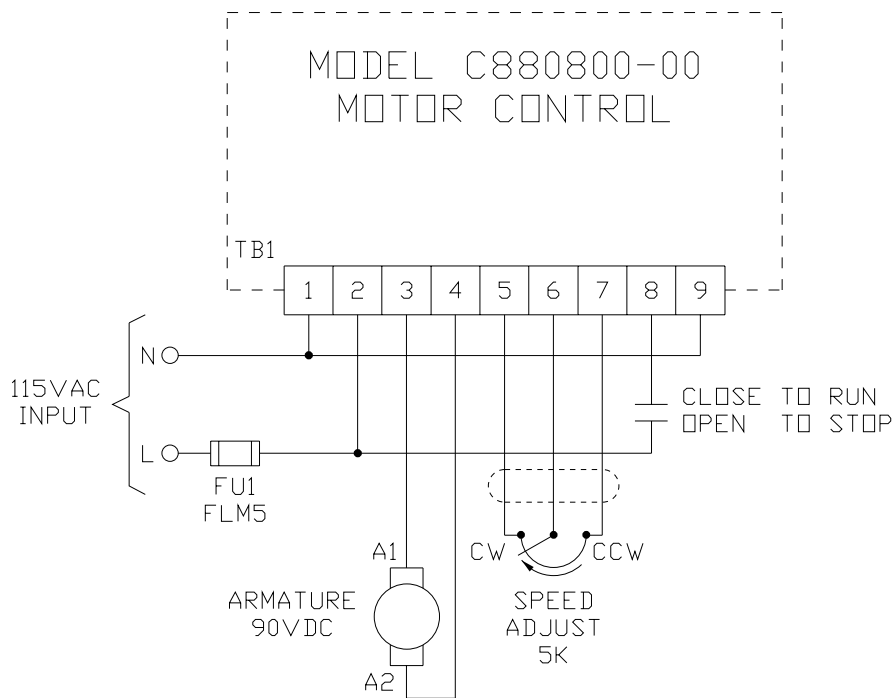


Fig. A.4