

# Field Regulator Unit

## General Description

The The Carotron Field Regulator option, Model FR1000-000, is an optional field current regulator.

The FR1000 can be used as an alternative field supply or crossover control for DC shunt motors. As a crossover control, the unit can extend the speed range of DC shunt motors. The crossover circuit decreases the field current when the armature reaches rated voltage.

As a field supply, the unit can regulate field current up to 10 amps. The unit also has field economy built in to reduce the level of field current after the motor is stopped.

Innovative design techniques have made the FR1000 easily adaptable to a wide range of motor control products. These design techniques combined with Carotron's standard quality features result in a field regulator possessing the highest level of performance.



## Standard Features

- Control circuitry operates at 115 VAC
- Line transient suppression on control input and field output
- IC regulated power supplies, metal film resistors and cermet potentiometers for stable operation under varying conditions of temperature and line voltage
- Terminal strips provided for easy connection
- Fused: Control circuit @ .3 amps  
Power circuit @ 15 amps
- Oversized power handling components
- Compact dead front chassis design

## Specifications

### AC CONTROL POWER INPUT

- 115 VAC, + 10%, 1 PH, 50/60 Hz

### AC POWER INPUT

- 230/460, + 10%, 1 PH, 50/60 Hz

### DC OUTPUT (MAXIMUMS)

- 200 VDC, 1 OA max for 230 VAC input
- 400 VDC, 1 OA max for 460 VAC input

### ARMATURE INPUT (CROSSOVER APPLICATION)

- 240 VDC
- 500 VDC

### FIELD CURRENT TRIM

- 6 to 1 range

### CURRENT REGULATION

+0.5% of current range

### TEMPERATURE

0-55°C

### ADJUSTMENTS

- Max field: Sets the maximum field current
- Min field: Sets the minimum field current
- Crossover: Sets the armature voltage level at which field weakness occurs
- Min fault: Sets the minimum field current fault level
- Tach offset: Used to zero out the tach scaling circuit at zero speed
- Tach gain: Used to set the maximum scaled tach voltage output at maximum speed
- VFB meter: Used to scale the armature voltage meter output
- IFB meter: Used to scale the field current meter output

## Standard Models and Descriptions

Model number	Description	Approx. Shpg. Wt.	Dimensions	Connections
FRI000-000	Chassis Only, basic model	10 lbs.	Fig. J.1	Fig. J.2, J.3 & J.4

## Dimensions

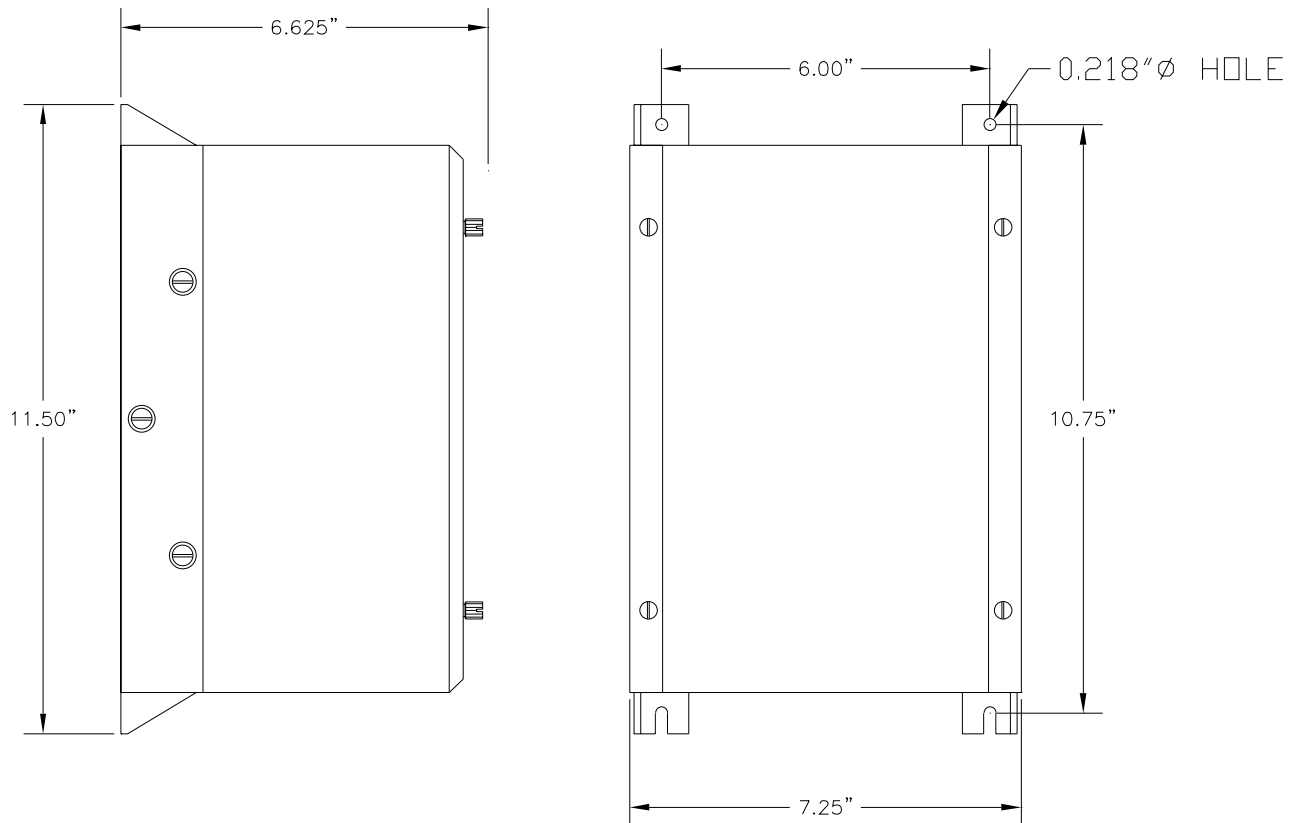


Fig. J.1

# Connections

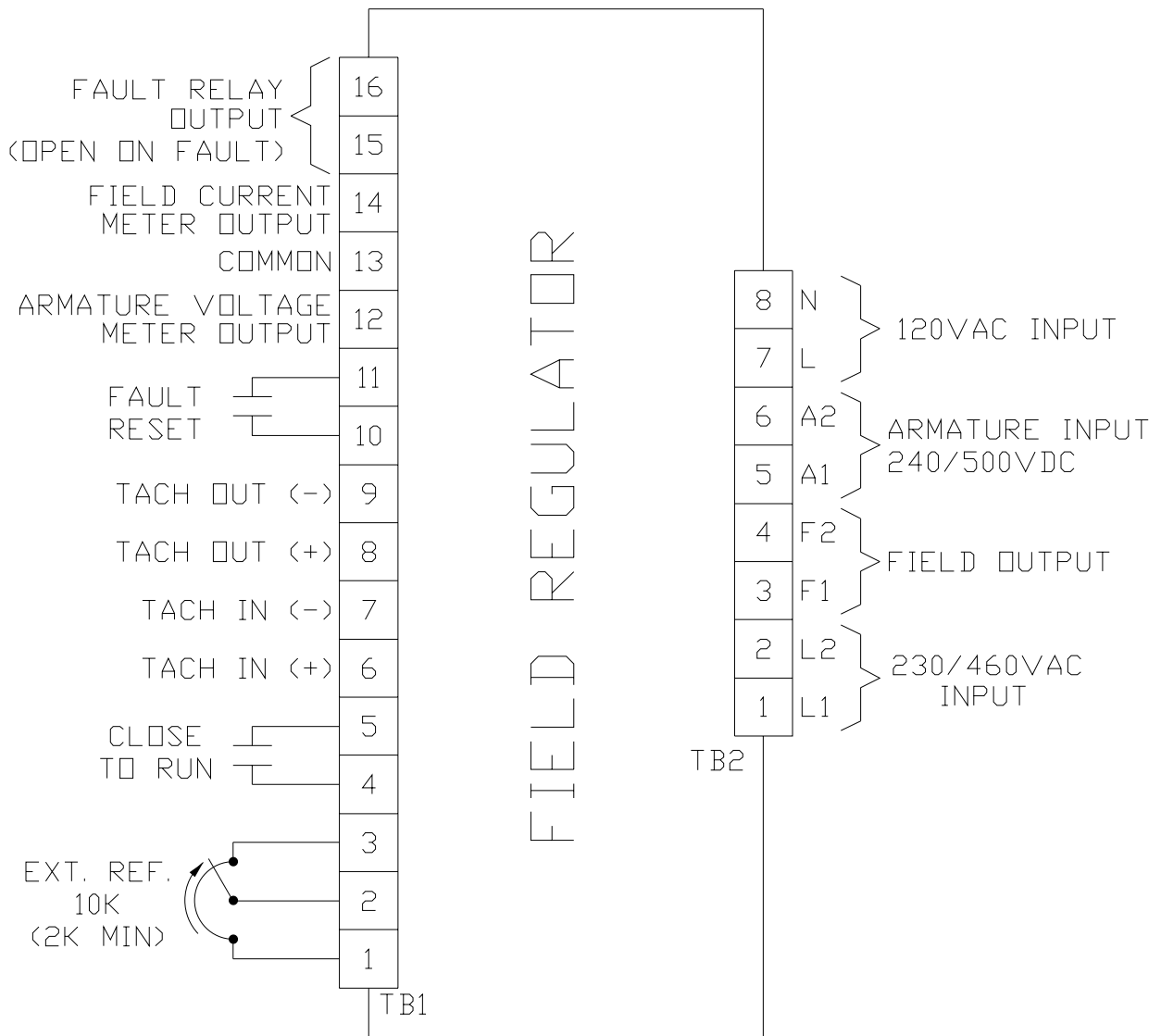


Fig. J.2

# Field Crossover Application

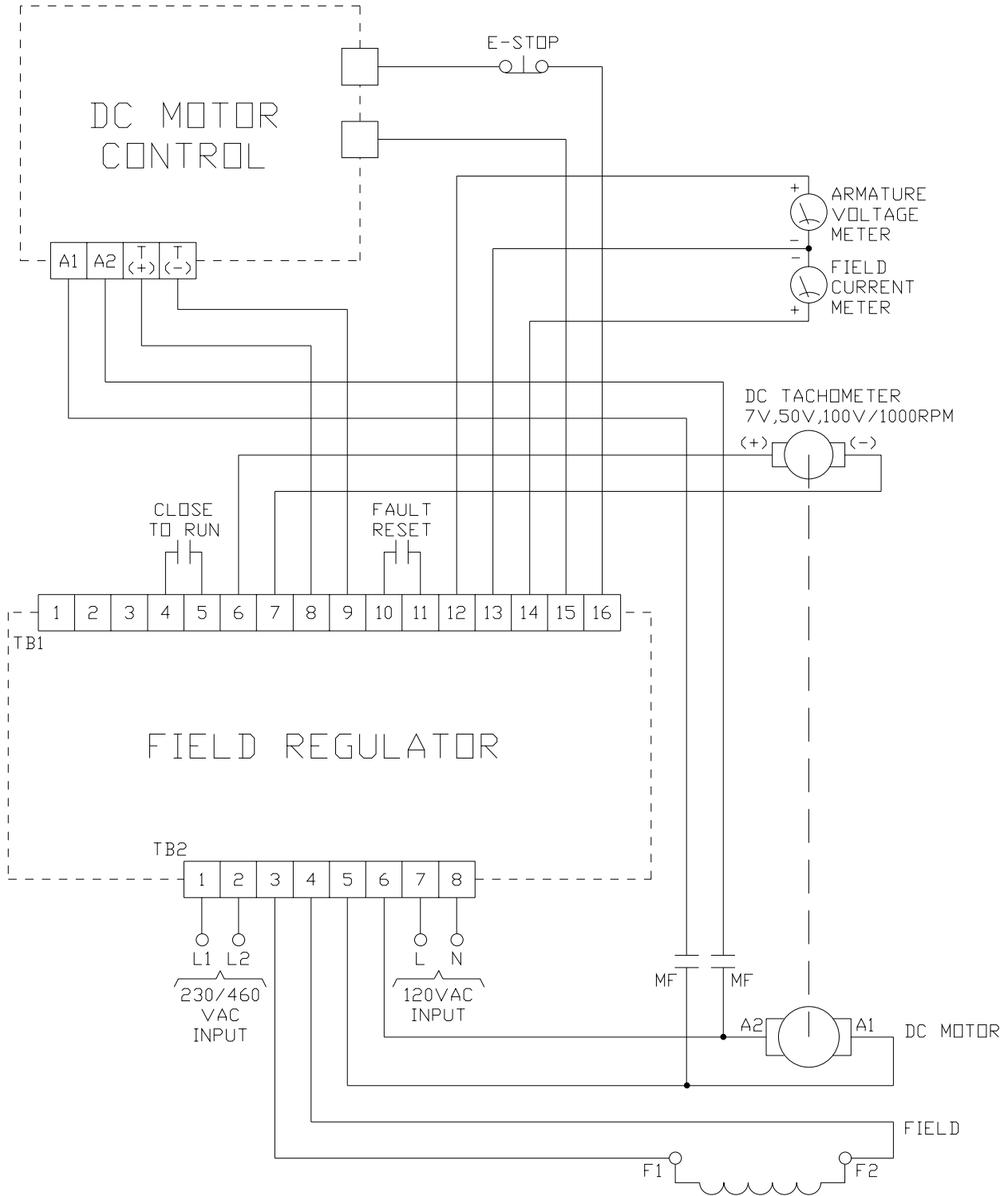


Fig. J.3

# Connections

## Field Supply Application

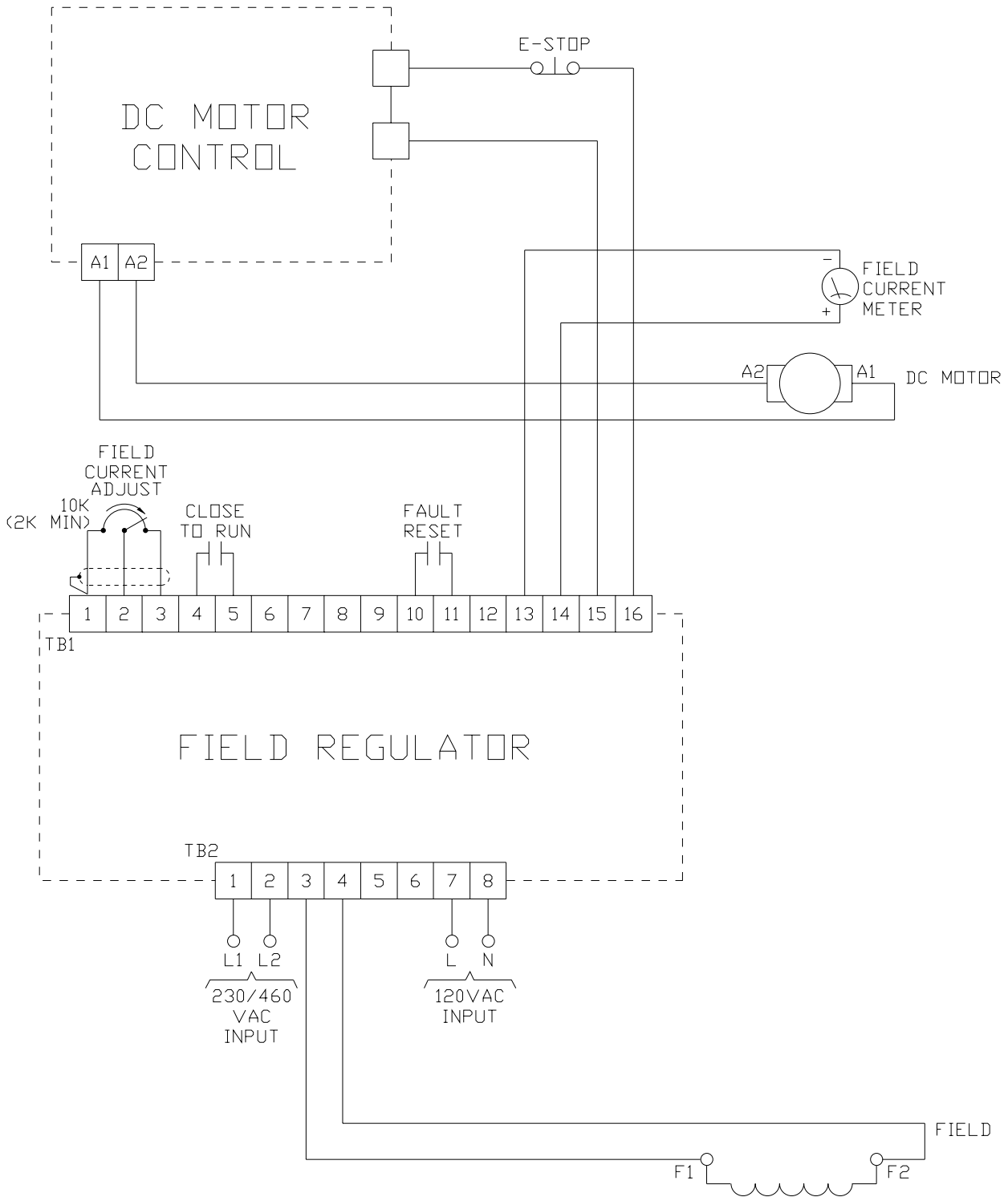


Fig. J.4