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# INSTRUCTION MANUAL
# TC-5 AND TC-5P
# Tension Control

## Introduction

The TC-5 controller is a solid state, controllable current regulator with a maximum output capability of 1 amp at 90 vdc. Its primary use is for the control of magnetic particle clutches and brakes.

Four output current ranges are provided. Maximum output for each range is .125, .25, .5 and 1.0 amp. The appropriate range is determined by the current rating of the clutch or brake to be controlled. For best torque control resolution, the lowest current range providing sufficient current for maximum operating torque should be selected. The range is selected by positioning the jumpers on jumpblock "JP1" (see figure 1).

A front panel meter provides an indication of output current as a percentage of the output range selected. For example, if the "JP1" jumpers are positioned for a maximum current of .25 amp and the meter indication is 50%, the output current is ½ of .25, or .125 amp.

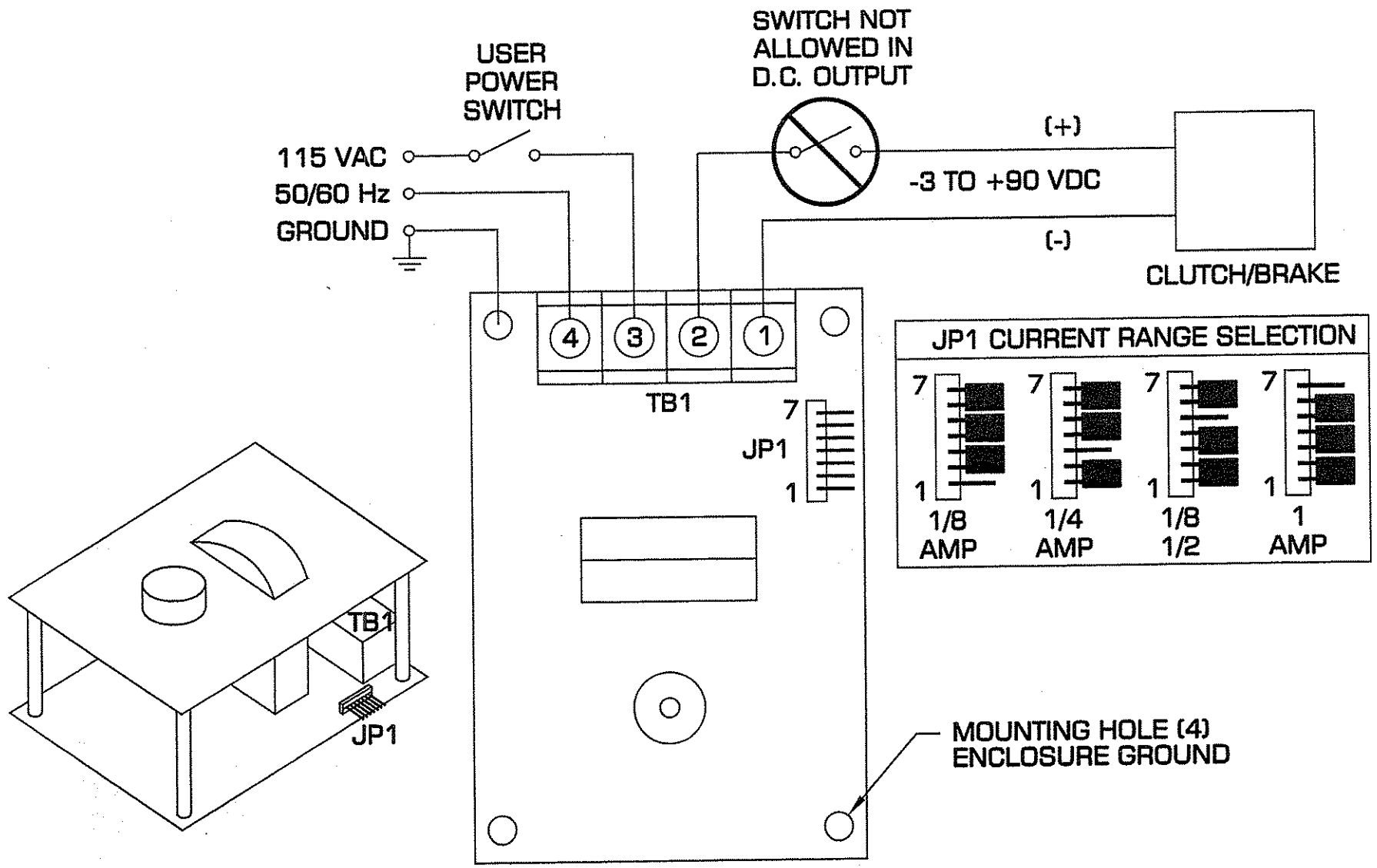
## Installation

The TC-5 is available as a panel mount or enclosure type unit. Refer to Figure 2 for outline and mounting dimensions.

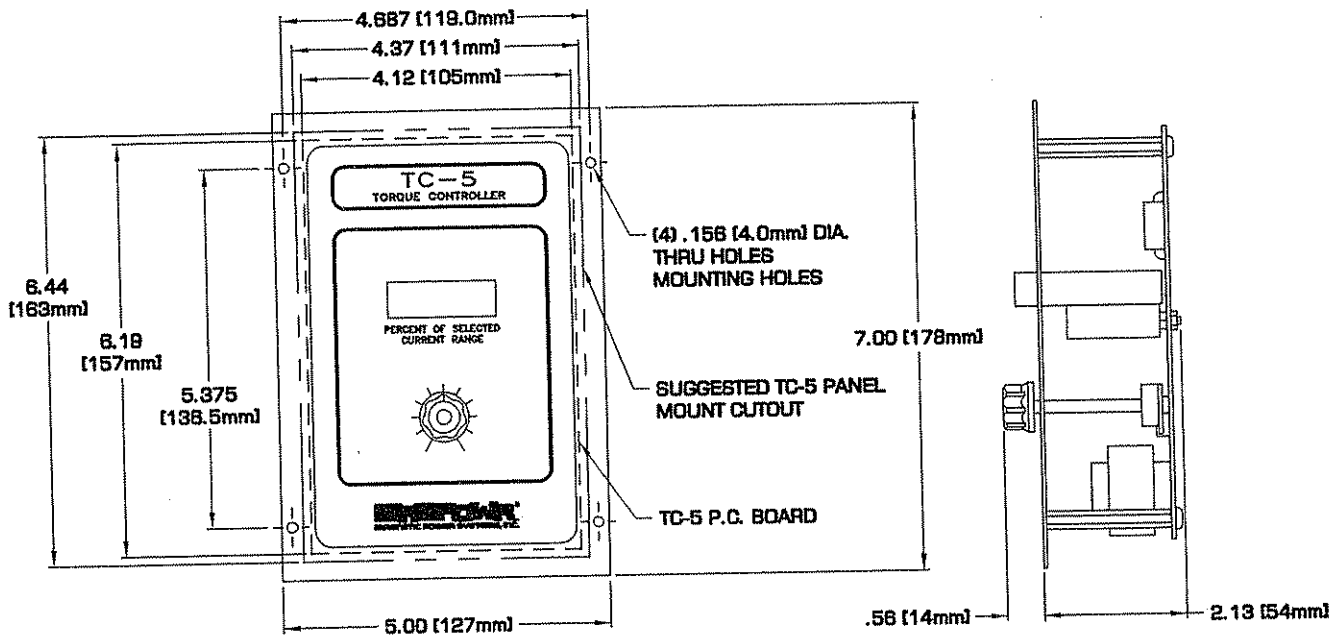
1. Mount the controller. If an enclosure type unit, remove the plastic bungs from the wiring holes for power and output cables.
2. Connect the output cable to the clutch or brake (TB1-1 and TB1-2).
3. Insure that the load is not grounded.
4. Select desired current range by positioning jumpers on JP1.
5. Connect to de-energized 120 vac line.
6. Turn power on.

## Specifications

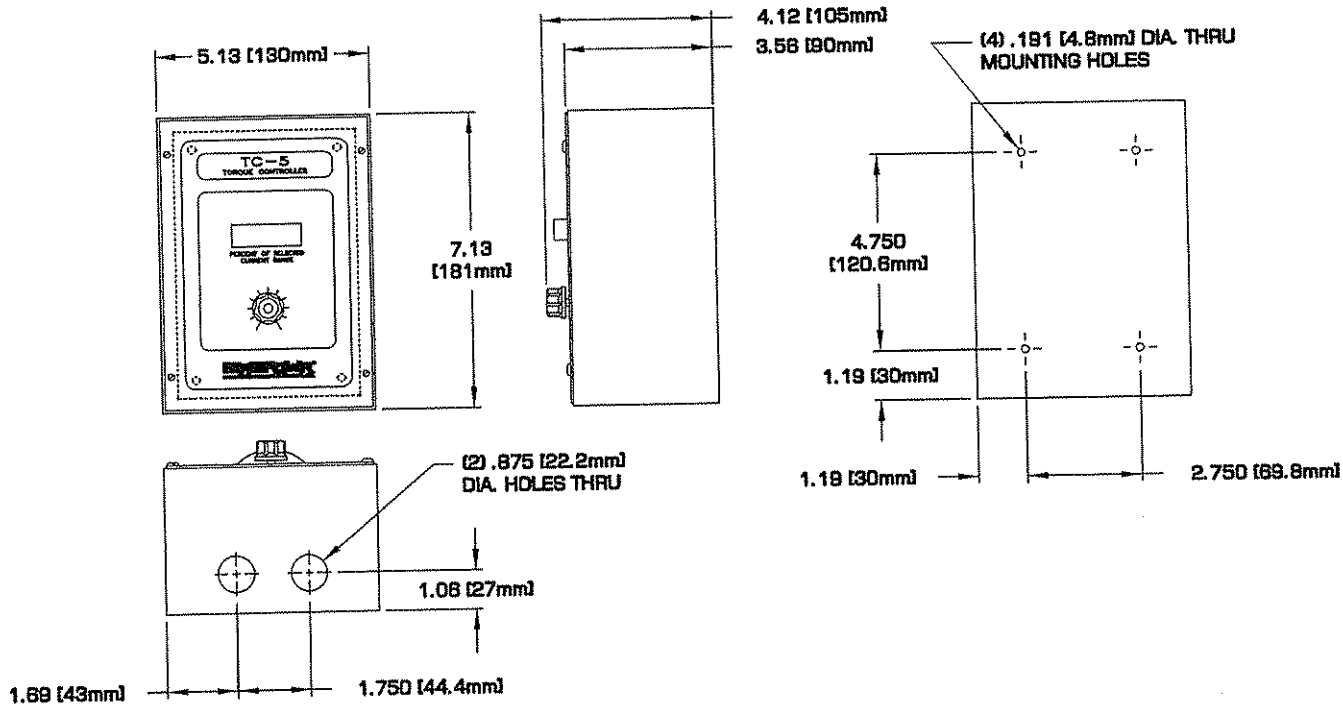
| | |
|---|---|
| Input Power: | 95 to 135 vac, 50/60 Hz, 1.2 amp RMS |
| Output Voltage: | -3 to 90 vdc, full wave, SCR phase controlled |
| Output Current: | Adjustable in four selected ranges:<br>-0.004 to 0.125 adc<br>-0.008 to 0.25 adc<br>-0.016 to 0.5 adc<br>-0.032 to 1.0 adc |
| Regulation: | < 2% of range |
| Temperature Range: | Operating 0 to 40°C<br>Storage -30 to 85°C |
| Fuse: | 1.5 amp Bussmann type AGC 1-1/2 |
| Meter: | Panel Meter, indicates 0 to 100% of current range, +/- 5%<br>External Connection, 0 to 1 madc, +/- 2% |
| Potentiometer: | 1 to 10 kohm |
| Reference Voltage: | +10 vdc, 10 ma capability, +/- 5% |




ELECTRICAL CONNECTIONS




PANEL MOUNTED UNITS




ENCLOSURE MOUNTED UNITS

FIGURE 2
OUTLINE AND MOUNTING DIMENSIONS

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