

## GENERAL DESCRIPTION

The AD-7800 Series Analog Remote Servo Amplifiers are designed for remote-mount bi-directional positioning of DC actuators. It uses a real-time hybrid operating system to drive an advanced, high-power Intelligent Power Module (IPM) output drive stage to the actuator motor. The conservative design allows operation with any of the larger Jordan actuators, and traditional potentiometer set-up requires no special training or equipment. Modular design allows for easy maintenance, or for upgrading to other Jordan amplifier products in the future.

## FEATURES

- Drive stage control uses Intelligent Power Module (IPM) for pulse width modulation (PWM) power switching to the motor for longer motor life and cooler operation.
- Proportional Control - Compares the control signal against the feedback signal and accelerates quickly for a large control change and accelerates slowly for a small control change.
- Bi-Directional actuator positioning
- Over-current, under-voltage, short circuit and over temperature protection onboard
- Field selectable loss of signal control: Lock-in-place or go to pre-set position
- Field adjustable speed control
- Pluggable terminal block connectors supplied for quick field wiring terminations
- Fast amplifier response time
- Isolated, two wire, 4-20mA output
- LED outputs for Loss of Signal (LOS) indication and Increase/Decrease driving indication
- Customer adjustable gain, zero and span and deadband
- Interchangeable powerstage with the AD-9120
- Potentiometer/Dip switch Set-up
- Balance speed control for different load dynamics like overhung loads or back driving type units
- Increase/decrease pushbuttons
- DIP or dry contact auto/manual control

## ACTUATOR COMPATIBILITY

**Rotary:** SM-1760-N, SM-5160-N, SM-5260-N, SM-5360-N, SM-5480-N.

**Linear:** LA-2460-N, LA-2560-N, LA-2660-N, LA-2660-N, LA-2980-N, LA-5160-N, LA-5260-N.

## SPECIFICATIONS

**Power Input:** 120/240Vac, +/- 10%, 1 Ph., 50/60 Hz

**Power Output:** 90Vdc/180Vdc, 20 Amperes peak

**Command Inputs:** 4-20mA into 200 ohm shunt  
0-10 Vdc into 100K minimum impedance  
0-5 Vdc into 100K minimum impedance

**Position Feedback Signal:** 1000 ohm potentiometer  
4-20mA

**Position Output Signal:** Loop powered, isolated,  
2 wire 4-20mA signal

### Other Inputs:

End-of-travel limit switches (from actuator)  
Overtorque limit switches (from actuator)

### Auto/Manual Jumper

Selects between Automatic and Manual mode  
Automatic Mode, 4-20mA command input controls actuator position  
Manual Mode, Increase and Decrease inputs control actuator position  
Increase (INC)- Commands actuator to increase when in manual mode.  
Decrease (DEC)- Commands actuator to decrease when in manual mode.

**Other Outputs:** LED Indication:  
Loss of Signal (LOS)  
Increase direction  
Decrease direction

**Temperature Range:** -40°F to 150°F (-40°C to 65°C)

**Approximate Weight:** 10 lbs. (4.5 kg)  
With enclosure - 35 lbs. (16 kg)

**Remote Mounting Distance:** 50 feet or less.  
(Consult factory for longer runs.)

# AD-7800 SERIES SELECTION CHART

Selection

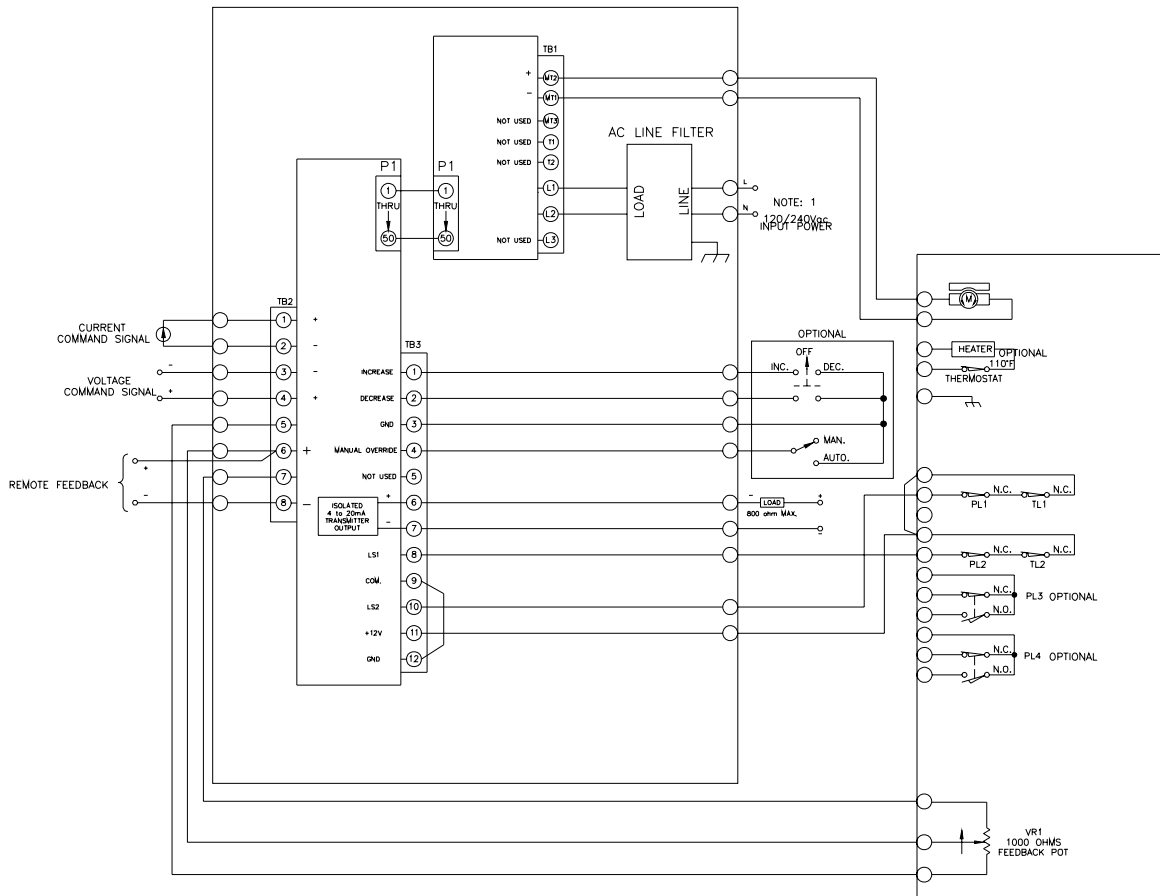
1	Basic Model	<b>AD-7830-P</b>	Panel Plate, 120/240 Vac, 1 Phase, 50/60 Hz	
		<b>AD-7830-E</b>	120/240 Vac, 1 Phase, 50/60 Hz, mounted in a NEMA 4 enclosure	
		<b>AD-7830-R</b>	AD-7300 Replacement Panel, 120/240 Vac, 1 Phase, 50/60 Hz	

LA-2980 and SM-5480 require 240 Vac input power to the amplifier.

## AD-7800 STANDARD OPTIONS

Code	Description	Selection
<b>Heater</b>		
<b>H002</b>	Anti-Condensation Heater (120 VAC), only available with enclosure option	
<b>H003</b>	Anti-Condensation Heater (240 VAC), only available with enclosure option	

## TYPICAL WIRING DIAGRAM



### Notes:

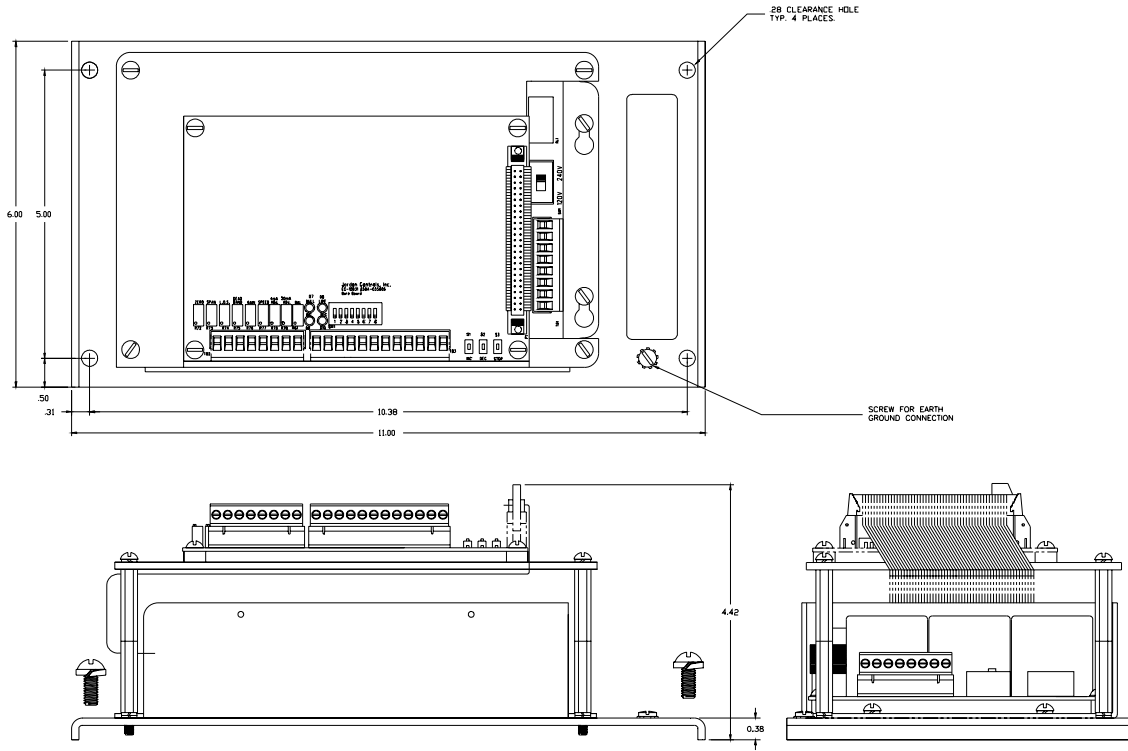
1. 240 Vac input is required where actuator nameplate voltage is 180 Vdc.
2. 24 Vdc power supply is required.
3. Maximum wire run from amplifier to actuator must not exceed 50 feet. Consult factory for longer runs.
4. Shielded wiring is required with the shield grounded at source common for all low level circuits. This includes command & feedback signals and position torque limit switches.
5. Wire size must allow for minimal voltage drop in wiring to the actuator motor, but not smaller than 14 AWG.

**Due to wide variations in the terminal numbering of actuator products, actual wiring should follow the print supplied with the actuator and amplifier.**

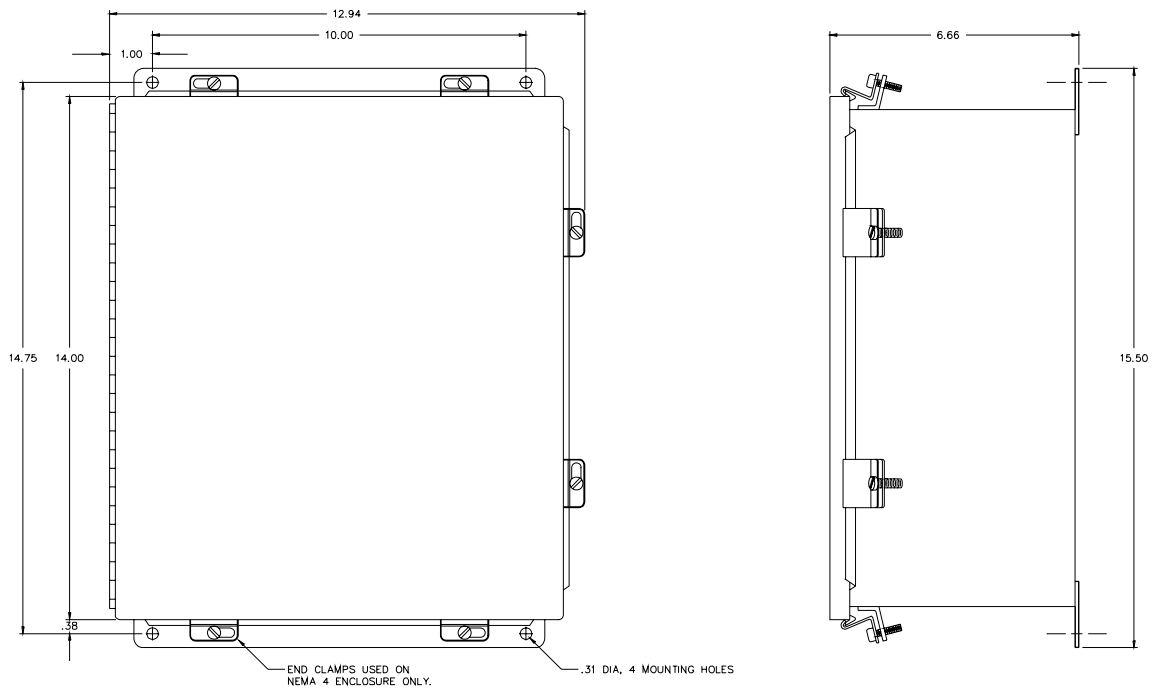
# MAJOR DIMENSIONS

AD-7830-P

INCHES



AD-7830-E



These dimensions are subject to change without notice and should not be used for preparation of drawings or fabrication of installation mounting. For current installation manuals and other product information, see [www.jordancontrols.com](http://www.jordancontrols.com).

