



**DESCRIPTION** The D1P is a proportional, infinitely variable power controller capable of delivering 1-98% of the applied line voltage to the directly connected electric heaters. This is accomplished by phase angle firing a TRIAC. The D1P will not control heaters with high inrush current (tungsten lamps), transformers or motors.

**OPERATION** The D1P comes standard with a potentiometer, knob and 0-100% scale which is used to vary the voltage to electric heaters, similar to a light dimmer and light bulb (see "WIRING DIAGRAM").  
\*WARNING: The potentiometer is NOT ISOLATED; it is at line voltage potential. The D1P CAN NOT create more voltage or current than what is supplied to it.

## INSTALLATION



**WARNING: FIRE HAZARD!!** Even the best electronic components CAN FAIL SHORTED, KEEPING FULL POWER ON! Provide a completely SEPARATE (redundant) OVER TEMPERATURE SHUTDOWN MEANS to switch power off if safe temperature is exceeded.



**WARNING: HIGH VOLTAGE!!** This control must be installed in a GROUNDED enclosure by a qualified electrician. Provide a safety interlock on door to remove power before gaining access to device.

**ELECTRICAL CONNECTIONS** See "WIRING DIAGRAM" on back. Check the Avatar serial tag and verify the correct voltage/ ampere ratings and input control signal for your application. Wiring must be performed in accordance with any and all applicable local and national codes. Use a minimum wire size of 12AWG for a 20 amp D1P and a minimum of 10AWG for a 30 amp D1P. For best results keep control signal and power wires separated.

**OPTIONS** PCB MOUNTED SETPOINT POT: add -PCB to part number

**WARRANTY** All Avatar Instruments products carry a full three year, from date of purchase, parts and labor warranty against component failure and defects in workmanship. In the event your controller fails to perform properly, **contact Avatar to obtain a return authorization number.** Controllers sent to Avatar for warranty service that have no apparent defect will be treated as a standard repair and a \$50.00 charge will be applied. Avatar will repair or replace any unit that failed due to defective parts or assembly. This warranty DOES NOT cover damage due to shipping, abuse, misapplication or operation beyond specified rating. Further more fuses and improperly fused SCR's/ TRIAC's are NOT COVERED by this warranty. Avatar is not responsible for any subsequent or other damage experienced in use of this device.

## SPECIFICATIONS

INPUT SIGNAL: supplied 100K potentiometer

POWER CONSUMPTION (max)

D1P-12/24-20: 30 watts

D1P-12/24-30: 54 watts

SUPPLY VOLTAGE: 120/240VAC, 50/60Hz

CURRENT RATING (vertically mounted)

D1P-12/24-20 (unmounted): 12 amps

D1P-12/24-20 (mtd. to mtl. plate): 20 amps

D1P-12/24-30 (unmounted): 30 amps

OPERATING TEMPERATURE (ambient)

0-50°C/122°F

FUSE REQUIREMENTS (TRIAC Protection)

semi-conductor/ rectifier I<sup>2</sup>T

RESPONSE TIME

10 mS

CONTROL METHOD

phase angle, proportional

OUTPUT VOLTAGE

1-98% of supply voltage

POTENTIOMETER ISOLATION

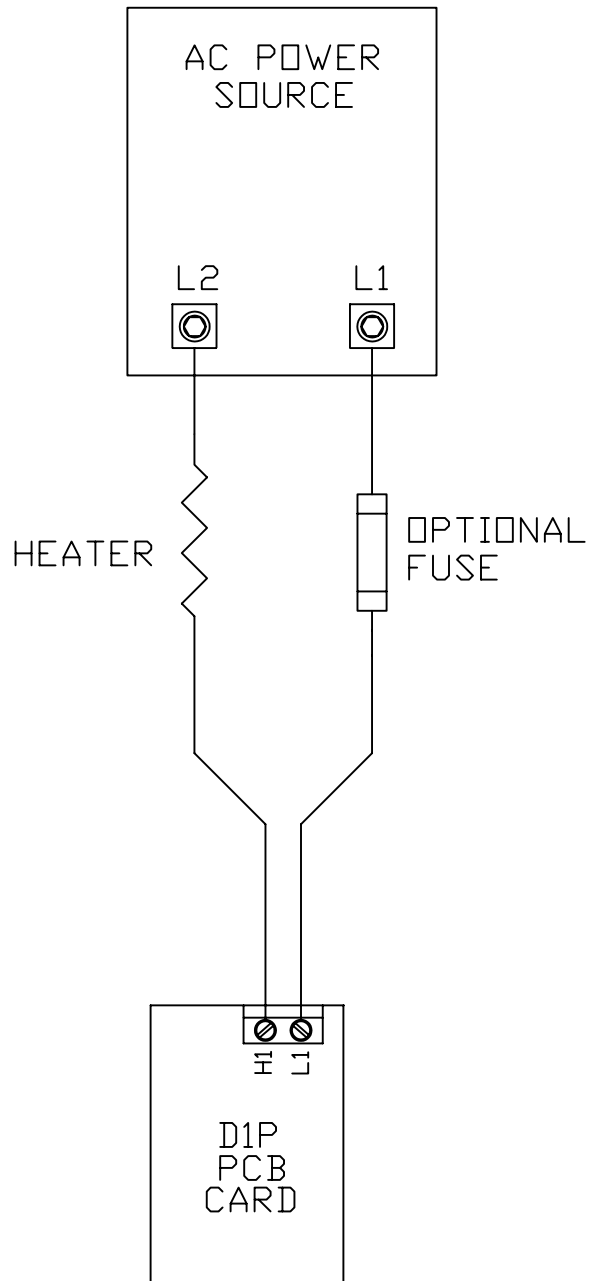
potentiometer terminals are at line voltage



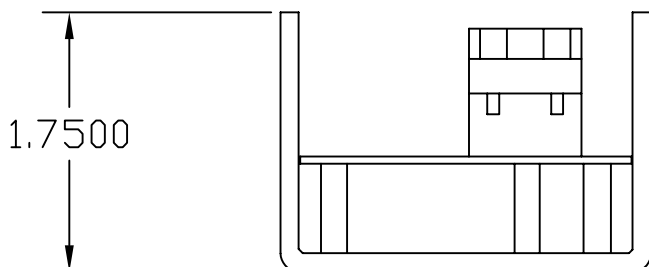
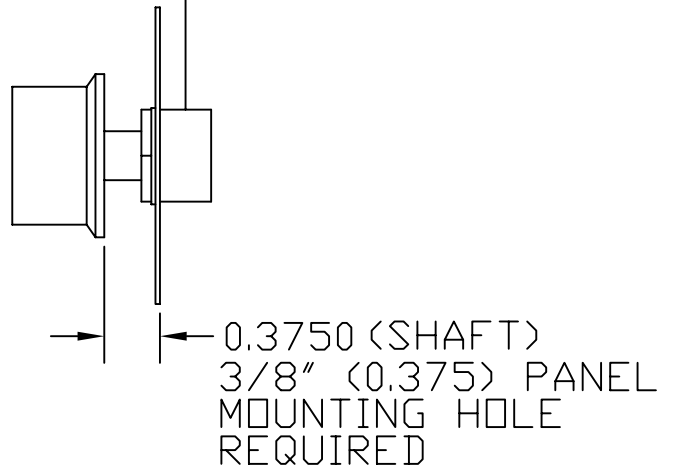
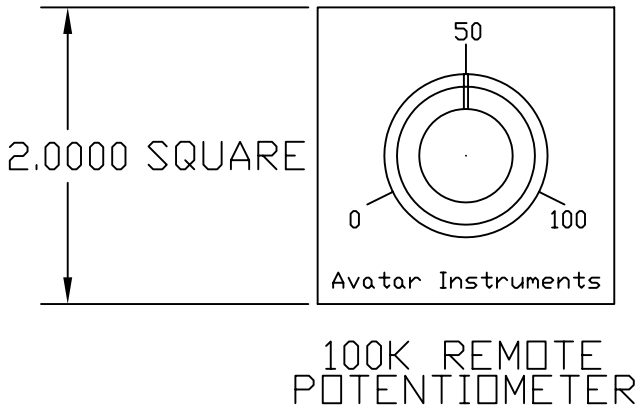
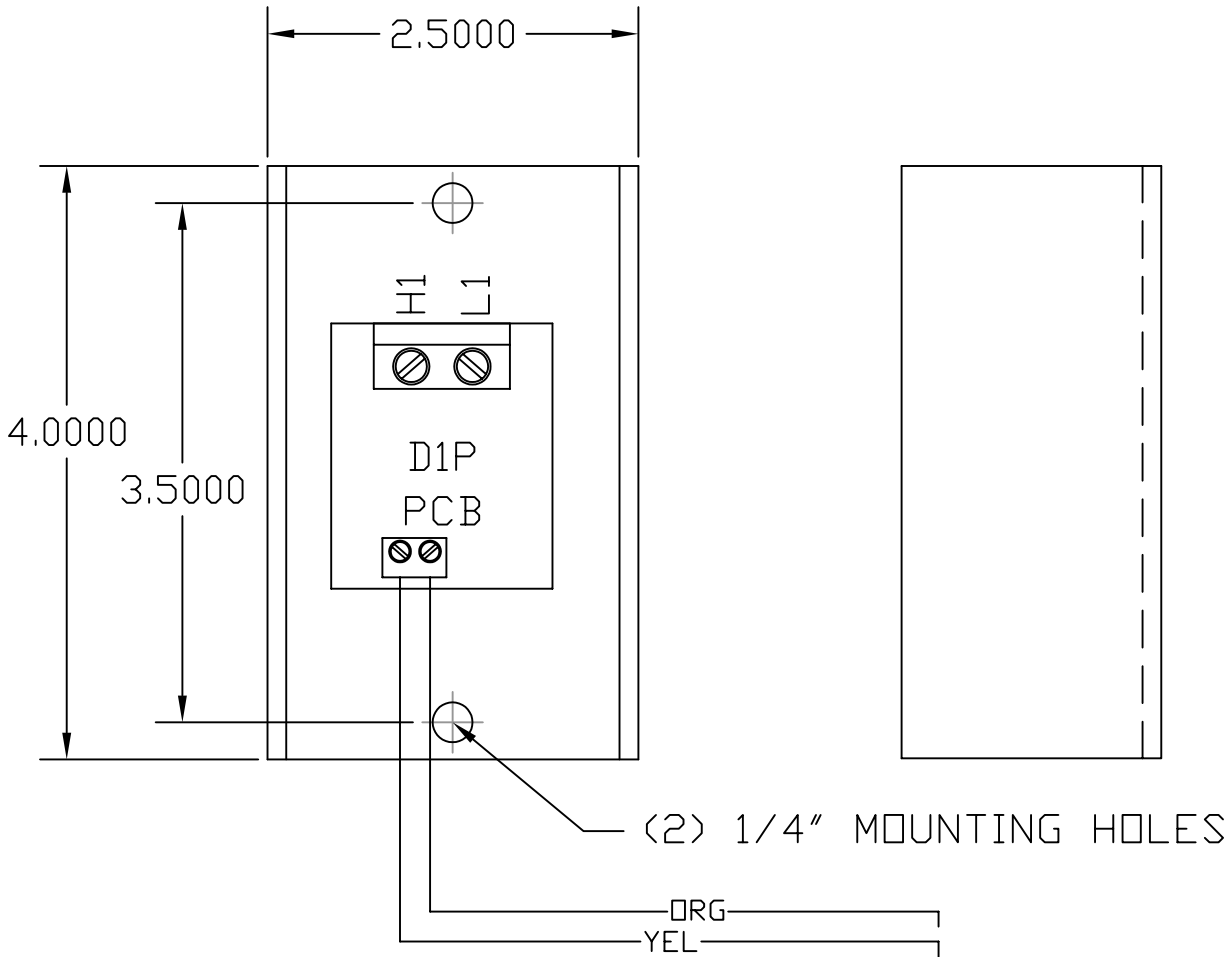
NRNT FILE # E350716

# WIRING DIAGRAM

## D1P - 20 & 30 AMP



**PHYSICAL DIMENSIONS**  
**D1P - 20 AMP**  
**with remote setpoint potentiometer**

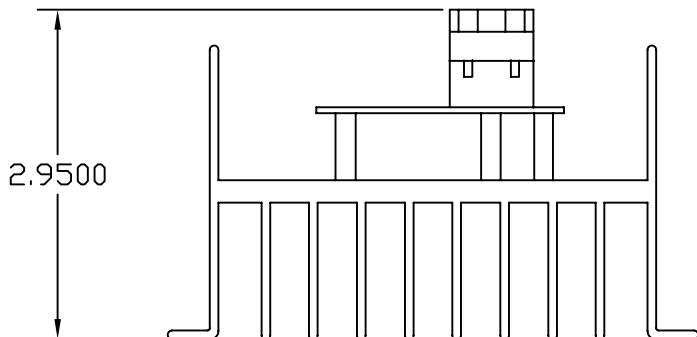
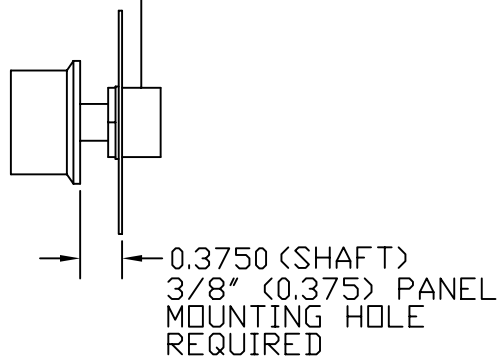
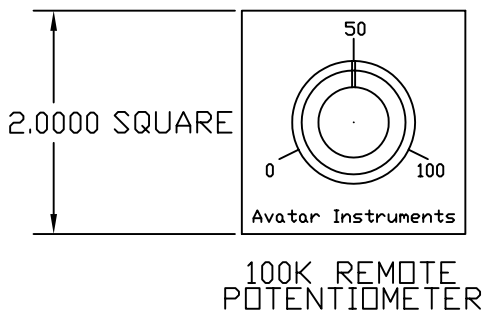
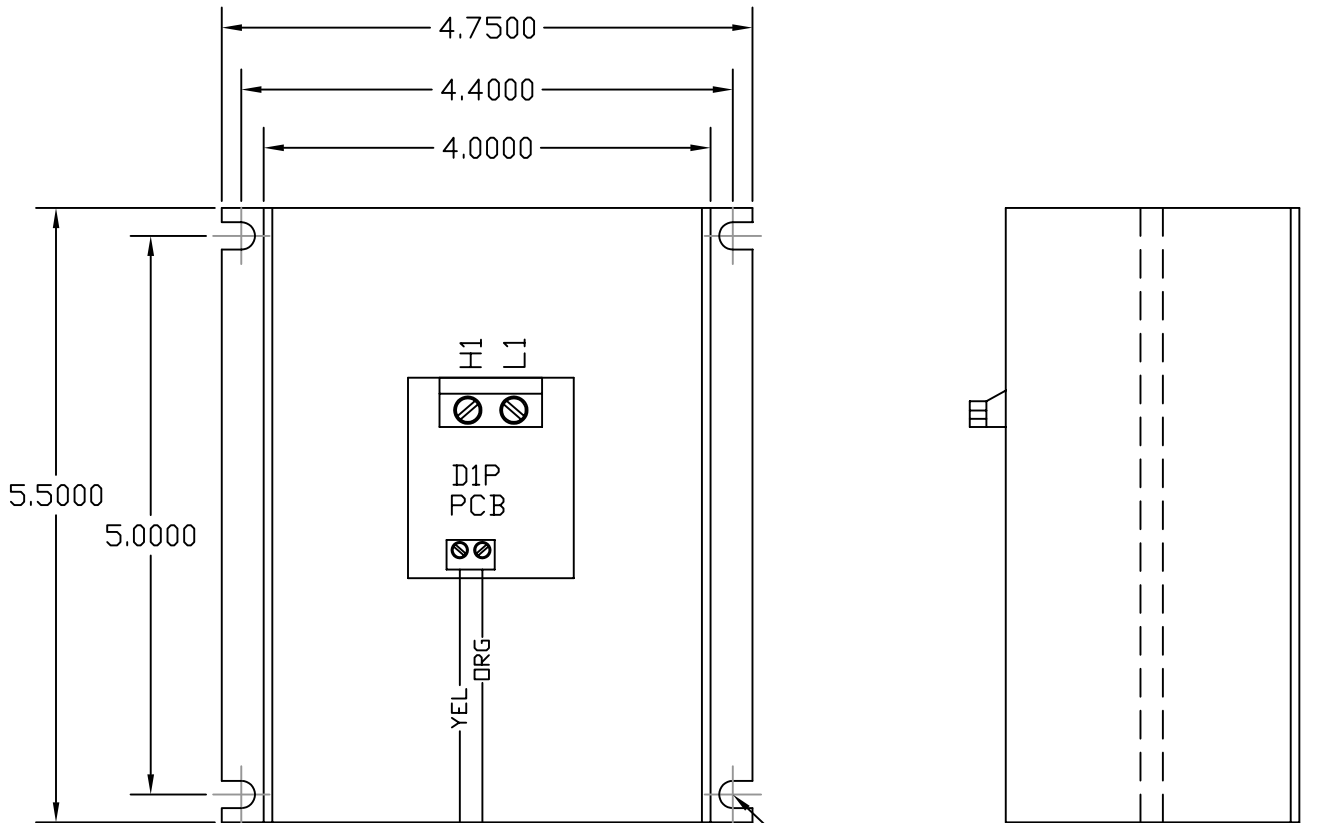


**DANGER!!!**  
POT TERMINALS ARE  
AT LINE VOLTAGE

# PHYSICAL DIMENSIONS

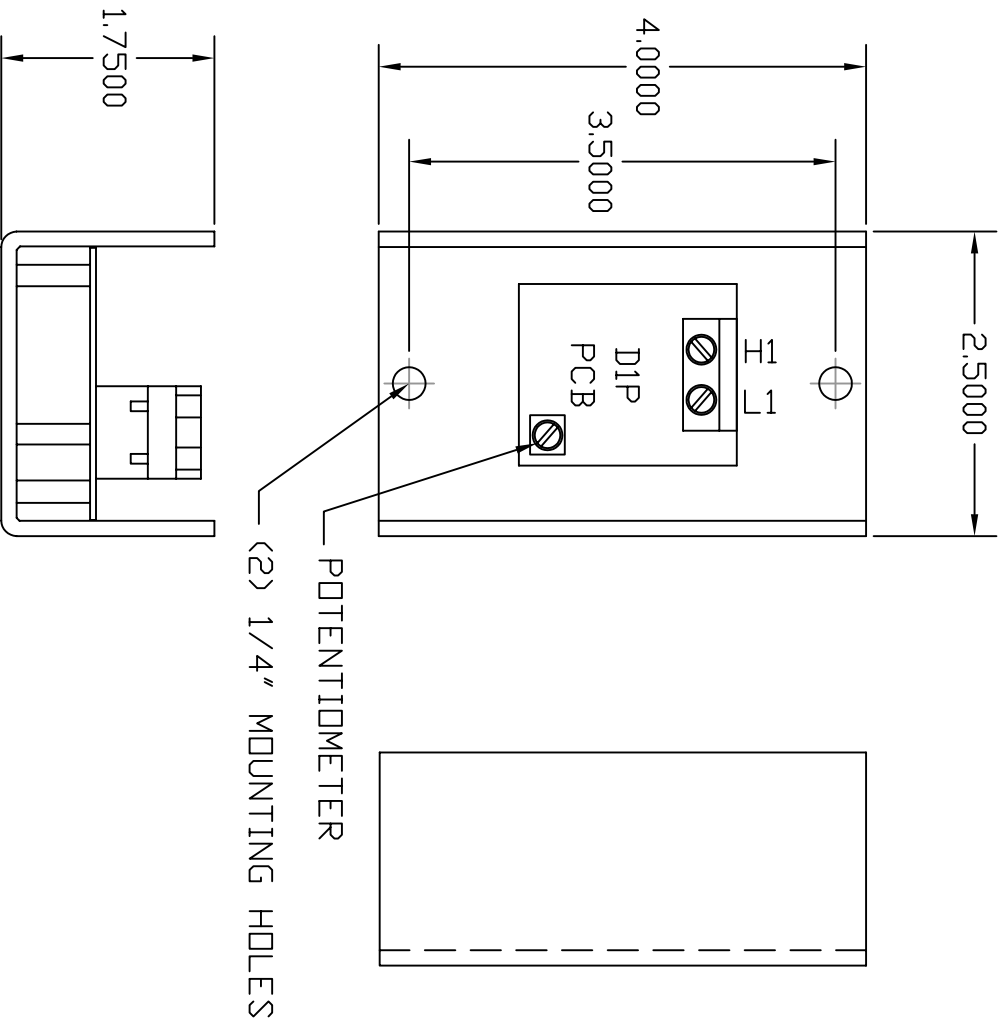
## D1P - 30 AMP

### with remote setpoint potentiometer



**DANGER!!!**  
POT TERMINALS ARE  
AT LINE VOLTAGE

**PHYSICAL DIMENSIONS**  
**D1P - 20 AMP**  
with integral setpoint potentiometer



**PHYSICAL DIMENSIONS**  
**D1P - 30 AMP**  
 with integral setpoint potentiometer

