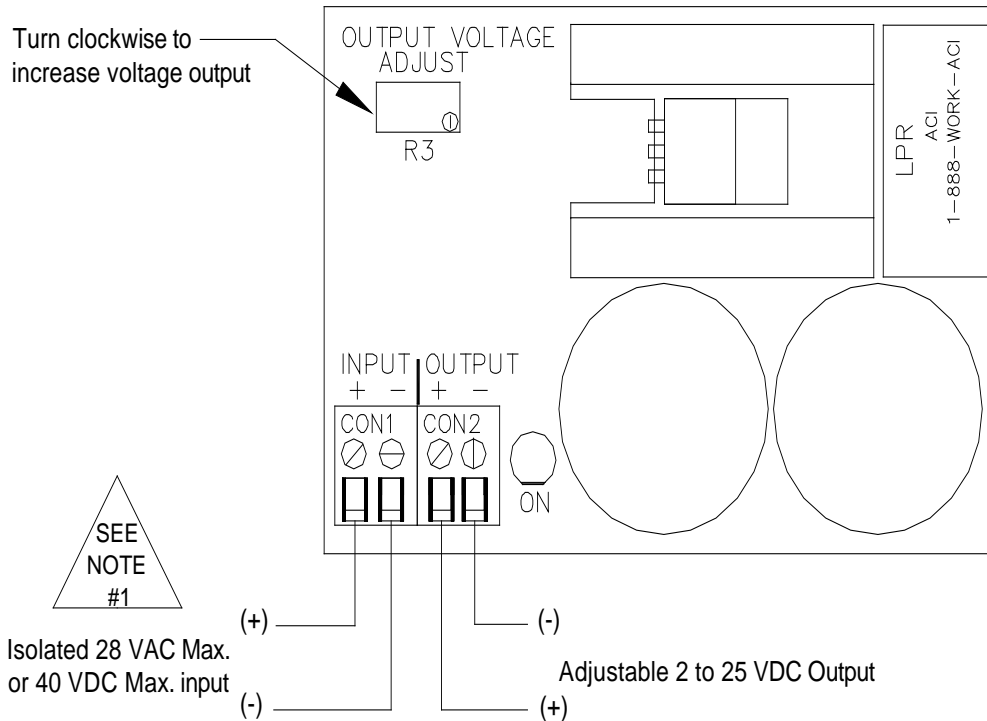




Installation and Operation Instructions LPR

24 VAC to Adjustable VDC Power Regulator



INSTALLATION

READ THESE INSTRUCTIONS BEFORE YOU BEGIN INSTALLATION.

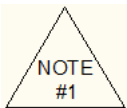
Ground yourself before touching the board. Some components are static sensitive.

Mounting:

Circuit board may be mounted in any position. If circuit board slides out of snap track, a non-conductive “stop” may be required. Use only fingers to remove board from snap track. Slide out of snap track or push against side of snap track and lift that side of the circuit board to remove. Do not flex board or use tools.

POWER CONNECTIONS – THIS PRODUCT ACCEPTS 24 VDC OR 24 VAC POWER.

Be sure to follow all local electrical codes. Refer to wiring diagram for connection information. Be sure to make all connections with the power off.



1. DC Power - Refer to wiring diagram for connection information.
If the 24 VDC power is shared with devices that have coils such as relays, solenoids, or other inductors, each coil must have an MOV, DC Transorb or diode, connects to the positive side of the power supply.
2. AC Power - Refer to wiring diagram for connection information.
Check the wiring configuration of any other loads that may be connected to this transformer. If required by BAS or controller specification, the 24 VAC neutral can be earth grounded at the transformer. Analog input, digital input, and analog output circuits should not be earth grounded at

two points. Any field device connected to this transformer must use the same common. If you are not sure of other field device configuration, use separate transformers for isolation. If the 24 VAC power is shared with devices that have coils such as relays, solenoids, or other inductors, each coil must have an MOV, AC Transorb, or other spike snubbing device across each of the shared coils. Without these snubbers, coils produce very large voltage spikes when de-energizing that can cause malfunction or destruction of electronic circuits. Refer to wiring diagram for connection information.

3. You should measure the actual voltage output of the secondary. If the output is not fully loaded you may read a higher voltage than the circuit board can handle.

CHECKOUT

Apply power to the INPUT (+) and (-) terminals. The LED should light and DC power should be available between the OUTPUT (+) and (-) terminals.

1. With the load device disconnected from the LPR, connect a DC voltmeter between the OUTPUT (+) and (-) terminals.
2. Coarse set the DC output by turning the screw on the output voltage adjustment potentiometer clockwise to increase the voltage and counterclockwise to decrease the voltage.
3. Fine adjust the DC output as follows. With the voltmeter still connected, connect the load. Make a final adjustment as in step 2 until the required operating voltage is achieved. If the LED turns off once the load is connected, then the DC load is either shorted (check connections and load) or drawing too much current (connect to a load that is known to draw less than the allowable amperage. See formula below.)

$$\text{AMP} < 10 / [(\text{VAC} / 0.707) - \text{VDC}]$$

Where:

AMP = Maximum allowable current draw of the load.

10 = De-rated power dissipation in LPR wattage.

VAC = Measured peak AC input voltage.

0.707 = RMS factor (converts to effective voltage).

VDC = Measured DC voltage.

EU Commission Directive 2002/95/EC (RoHS) Compliant

Short Circuit Protection: Provided internally on LPR. No fuse protection required.

Supply Voltage: 28 VAC Maximum
40 VDC Maximum

Output Voltage: Adjustable from 2 to 25 VDC (w/24 VAC in) ½ wave rectified
Adjustable to 35 VDC with 40 VDC in Minimum VDC input should be 5 volts greater than expected output. Coarse set at factory to 24 VDC.

Power Consumption: 1 A Maximum

Power Dissipation: 10 watts Maximum (de-rated)