



**BASIC OPERATING INSTRUCTIONS FOR**  
**RK19 SOLID STATE CONTROL RECTIFIERS**  
**CURRENT LIMIT**

**MANUAL OPERATION**

1. Auto - Manual switch must be in manual position.
2. Link bars must be in lowest setting.
3. Turn rectifier on.
4. Observe output.
5. Turn rectifier off.
6. Adjust link bars
7. Repeat steps 3-6 until desired output is reached.

**NOTE:** Solid state controls have no effect in manual mode and need not be adjusted. Solid state printed circuit boards may be removed for inspection or repair in manual mode. Unit will remain operational.

**CURRENT LIMIT - CONSTANT CURRENT OPERATION**

NOTE: The **CURRENT LIMIT** is factory set at rated output of rectifier. If different current limit is desired then proceed with the following steps.

1. With the Auto-Manual Control switch in the Manual position, increase link bars to obtain a current output slightly higher than required, but still within the rating of the rectifier.
2. Turn Rectifier OFF and adjust CURRENT LIMIT knobs fully clockwise.
3. Place the Auto-Manual switch in the AUTO mode.
4. Turn Rectifier on. Output should return to the output as adjusted in step one above.
5. Adjust CURRENT LIMIT control counter clockwise (decrease) to desired current output. Rectifier will maintain this current setting with nominal circuit resistance changes. If there is an extreme change in external load circuit resistance, link bars may need to be at a higher setting to maintain the preset current. Constant current operation is a function of the current limit feature of this unit.

## **TROUBLE SHOOTING HINTS**

**NOTE:** A wiring diagram for use by experienced personnel is provided. Only experienced electrical personnel should attempt location and repair of electrical difficulties, should they occur. Some symptoms of elementary trouble and the possible remedy are as follows:

### **1. NO D.C. CURRENT OR D.C. VOLTAGE OUTPUT.**

CHECK: A.C. overload protection for blown fuses or tripped breaker. Check A.C. power supply. (Is desired potential maintained?) If desired potential is maintained then unit has automatically cut back output of rectifier to maintain potential.

### **2. D.C. VOLTAGE BUT NO D.C. CURRENT READING.**

CHECK: D.C. ammeter. Check D.C. connections and external D.C. circuit for electrical continuity.

### **3. D.C. CURRENT READING BUT NO D.C. VOLTAGE READINGS.**

CHECK: Check D.C. voltmeter.

### **4. MAXIMUM RATED D.C. VOLTAGE CANNOT BE ATTAINED.**

CHECK: A.C. line voltage. Check link bar adjustments for maximum. Check accuracy of D.C. voltmeter. Check that unit is not operating against a preset voltage and or current limit.

### **5. MAXIMUM RATED D.C. CURRENT CANNOT BE ATTAINED.**

CHECK: Load resistance of external D.C. circuit. Check that unit is not operating against a preset voltage and or current limit.

### **6. REFERENCE METER PEGGED FULL SCALE AND NO D.C. OUTPUT.**

CHECK: Electrode and Structure connections and external reference circuit for electrical continuity.

**NOTE:** Give model and serial numbers when writing or calling Universal Rectifiers Inc. in reference to this rectifier.