



# ***La MARCHÉ***®

## **CEMF SYSTEMS (COUNTER ELECTRO MOTIVE FORCE)**

### **OPTIONS 340, 341 AND 342**

The CEMF (Counter Electro Motive Force) system allows the d.c. input to operate at one level of voltage parameters while maintaining the d.c. output voltage at a different level. It is a system of voltage sensing relays, contactors, and forward biased diodes that lower the d.c. output voltage (load) with respect to the d.c. input voltage (supply).

During a power outage, when the battery is discharging or if the supply voltage is low, the "ERTL" relay, form "C" contacts will de-energize at approximately 2.2 v.p.c. The contact between 2 & 3 will close, this will energize the DK relay and its' contact. DK-1 will also close, shorting out the CEMF diodes, making the supply and load voltage the same. When a.c. power is restored, the battery should charge. When the battery reaches approximately 2.24 v.p.c. the ERTL contact will open and the DK relay will drop out and its' contact will open creating a voltage drop between the input and load.

This setting can be changed by readjusting the low voltage potentiometer on the ERTL printed circuit board. Put a voltmeter on Terminals 1 positive and 8 negative on the ERTL relay. Adjust the d.c. voltage to proper drop out level. Turning the potentiometer of the ERTL counter clockwise lowers the drop out setting. The "LED" on the ERTL will light when the relay drops out, closing the contact between Terminals 2&3. The DK relay will energize and its' contact will close, shorting out the CEMF diodes. The ERTL relay will re-energize at approximately 1% above this setting.

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