



### **CAUTION**

Confirm all main input load bus and ground connections are properly connected, turned, and tightened. Confirm external control power connections. Loose connections will result in damage and danger to personnel.

## **Automatic Load-Level Option**


If the Load Bank is equipped with the Automatic Load Level Control option, the unit is shipped with a separately supplied current transformer CT100 that must be installed and wired as shown on the Electrical Schematic and Interconnection diagram.


### Theory of Operation

The Automatic Load Controller senses the downstream connected building load and upon “Transfer of Control” contact closure, will add/subtract Load Bank load steps in response to downstream building load changes as to provide a minimum load on the power source. With the Load Bank in operation in the Automatic mode, the controller will continue to add/subtract load in response to the dynamic power fluctuations of the connected building load. The controller utilizes the load bank as a “supplemental load” for maintaining a minimum load on the power source.

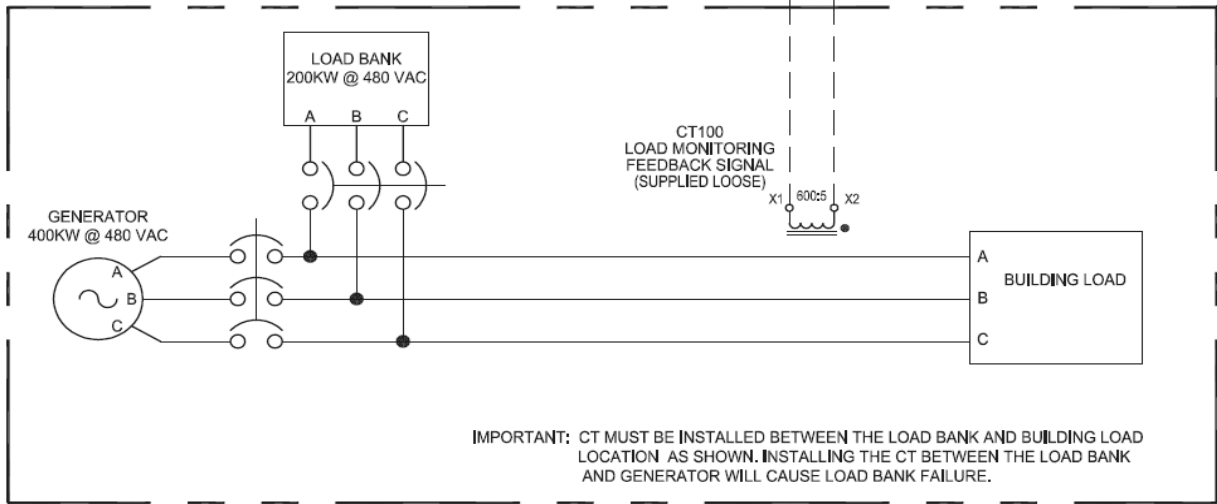
When the Operator Control panel Manual/Auto switch is in the “Auto” position, the customer supplied “Transfer of Control” contact closure will initiate the Load Bank controls, initiate the load application circuit, and begin sensing the downstream connected building load. The separately supplied current transformer CT100 provides the necessary feedback signal for sensing the downstream connected building load. After an initial Time Delay, the controller begins adding/removing load steps accordingly as to keep a minimum load on the power source.

Customer supplied “Transfer of Control” contacts and separately supplied current transformer CT connections are to be wired to the respective load bank terminal block location terminals as noted on the Electrical Schematic/Interconnection Diagram.

 **The Load Bank is shipped with a separately supplied current transformer that must be mounted as shown in a location as to sense the downstream building load connected to the power source.**

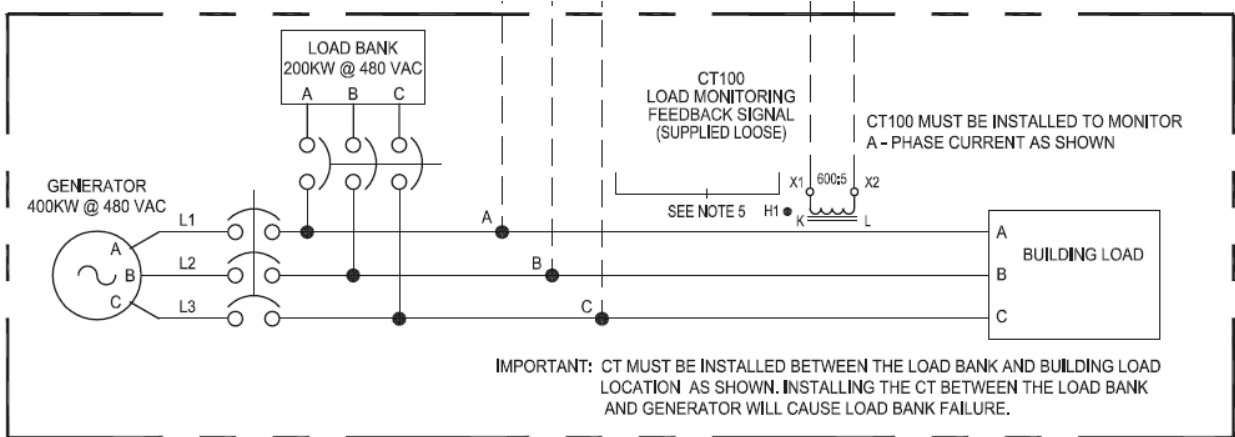
 Always short/shunt current transformer secondary circuits when servicing or troubleshooting current transformer sensing and/or instrumentation circuits. Primary current flowing through an un-shunted open secondary of a current transformer will destroy the current transformer with possible danger and harm to personnel

**IMPORTANT:** CT100 must be installed between the Load Bank and Building Load as shown on page 2 of Electrical Schematic/Interconnection diagram. Installing CT100 between Load Bank and Generator will cause Load Bank failure and Void Warranty.



**Automatic Control System features when included with Reverse Power Relays**

K-VCR - Initial Generator Voltage Sensing Relay. Forward Power mode applies load bank load to the generator in three (3) stages as to maintain a minimum load on the power source. The first two (2) steps of load are applied on a time delay basis with 0 KW downstream connected load and are programmed to drop out steps as the downstream (connected building load) rises above the pre-programmed set-points. Stages 3 and 4 connect and apply load upon detection of reverse power (set to apply steps respectively upon detection of reverse power at approximately 4 percent and 10 percent of generator KW rating). Stages 1 and 2 are added and bypassed (if not already applied on a time delay basis) if reverse power continues to rise above 20 percent of generator KW rating.



**NOTES:**

- 5) PROPER PHASING MUST BE OBSERVED WHEN MAKING 3 PHASE VOLTAGE CONNECTIONS L1-PHASE A TO TB100(1), L2-PHASE B TO TB100(2), L3-PHASE C TO TB100(3). PROPER PHASING MUST BE OBSERVED WHEN MAKING CT100 CONNECTIONS X1 TO TB100(5) AND X2 TO TB100(6). REFERENCE DOT "•" OR H1 MARKING MUST ALWAYS FACE THE POWER SOURCE.

NO WIRE CODE.

