POWER COMMANDER

Series 900 Electronic Line Voltage Regulator

GENERAL SPECIFICATION

1.0 General

This specification describes the electrical and physical aspects of the Power Commander - Series 900 Electronic Line Voltage Regulator. All systems are designed and manufactured to assure maximum reliability, flexibility, serviceability and performance. The Power Commander - Series 900 uses seamless electronic control to provide output voltage regulation within 1% of nominal. The output is adjustable ± 10% from nominal with an internal potentiometer. If a voltage transformation is required, Controlled Power Company offers its "Power Commander Plus" model, which includes an integral, computer-grade, shielded isolation transformer. This integral transformer will step the voltage up or down to the desired nominal level, and provide transient and noise attenuation.

2.0 Standards

The Power Commander Systems are designed and manufactured in accordance with the following:

- Institute of Electrical and Electronic Engineers (IEEE 597)
- National Fire Protection Association (NFPA) 70, National Electrical Code (NEC)
- Underwriters Laboratory (UL 1012)

3.0 Performance Specifications

3.1 Nominal Input Voltage - 208 or 480 Single Phase; 208/120Y or 480/277Y Three Phase.

3.2 Nominal Output Voltage - Same as input, adjustable by ± 10%.

3.3 Output Voltage Regulation - ± 1% or better for input voltage fluctuations of +10% to -20% of nominal, and from no load to full load.

3.4 Remote Sensing - The output voltage can be sensed and regulated at the load, automatically compensating for line and wire losses due to long distances to the load.

3.5 Frequency Range - 57 to 63 Hz for 60 Hertz models. 48 to 52 Hz for 50 Hertz models.

3.6 Output Voltage Adjustment Range - Adjustable to ± 10% with internally located potentiometer.

3.7 Correction Time – 5 to 9 cycles under worst case conditions.

3.8 Efficiency - 91% to 94%, KVA size dependent.

3.9 Power Factor - 0.95 typical at full load.

3.10 Harmonic Content - Less than 5% THD added under linear load.

3.11 Overload Capability - 500% for 10 seconds, 1000% for one cycle. Conforms to IEEE 597.

3.12 Audible Noise - Less than 60dBA @ 1 meter.

4.0 Regulating Transformer

4.1 Transformers are buck-boost dry type, convection or fan air cooled, 600 volt class.

4.2 The transformer is electrically and magnetically regulated. There are no moving parts.

4.3 All transformer windings are class N (200° C) insulated copper.

4.4 A class N installation system is utilized throughout with operating temperatures not to exceed 115°C over a 40°C ambient temperature.

4.5 Transformer core manufactured utilizing M-6 grade, grain oriented, stress relieved silicon transformer steel.

4.6 Interface terminals are provided for input and output conductors.

4.7 All leads, wires and terminals are labeled to correspond with circuit wiring diagram.

4.8 Transformers are vacuum impregnated with an epoxy resin.

5.0 Cabinet Construction

5.1 Cabinet is attractive, functional, NEMA type 1 general purpose indoor enclosure.

5.2 Cabinet manufactured from heavy gauge steel. Base sub-structure adequate for fork lifting.

5.3 Powder-coat paint finish with proper pre-treatment provided.

6.0 Warranty

Controlled Power Company guarantees all systems will be free from defects in material and workmanship for a period of (1) year following shipment from the factory.