ENGINEERING SPECIFICATION

SYMCOM MODEL 201-100-DPDT / 201-200-DPDT

3-PHASE VOLTAGE MONITOR/PROTECTION RELAY

PART 1 GENERAL

1.1 REFERENCES

A. UL 508 Industrial Control Equipment – Underwriters Laboratories
B. IEC 60947 Low Voltage Switchgear and Controlgear – International Electrotechnical Commission
C. ANSI/IEEE C62.41 – American National Standards Institute/Institute of Electrical & Electronics Engineers
D. CSA C22.2 No. 14 Industrial Control Equipment – Canadian Standards Association

1.1 WARRANTY

A. Manufacturer Warranty: The manufacturer shall guarantee the product to be free from material and workmanship defects for a period of five years from the date of manufacture when installed and operated according to the manufacturer's requirements.

PART 2 PRODUCTS

2.1 MANUFACTURERS

For Model 201-100-DPDT
The equipment specified shall be the Model 201-100-DPDT, manufactured by SymCom, Inc.

For Model 201-200-DPDT
The equipment specified shall be the Model 201-200-DPDT, manufactured by SymCom, Inc.

2.2 DESCRIPTION

A. Regulatory Requirements:
   1. The equipment shall be UL Listed as type NKCR—Industrial Control Equipment-Motor Controllers-Auxiliary Devices.
   2. The equipment shall be ULC Listed as type NKCR7—Industrial Control Equipment-Motor Controllers-Auxiliary Devices Certified for Canada.
   3. The equipment shall be CE marked for use in the European Union and evaluated against IEC 60947 Low Voltage Switchgear and Controlgear.

2.3 PERFORMANCE/DESIGN CRITERIA: 3-PHASE VOLTAGE MONITOR/PROTECTION RELAY

A. Protective Relay Functions
   1. The equipment shall provide protection against the following conditions:
      a. phase loss
      b. phase reversal
      c. low voltage (90% of nominal setting)
      d. voltage unbalance

B. Capabilities and Features
   1. The equipment shall include:
      For Model 201-100-DPDT
      a. an adjustable voltage range of 95-120VAC
      For Model 201-200-DPDT
      a. an adjustable voltage range of 190-240VAC
      b. a phase unbalance trip point of 6%
      c. a trip delay of 4 seconds for low voltage, and 2 seconds for unbalanced voltage and single-phasing faults.
      d. a restart delay of 2 seconds
      e. voltage accuracy $\leq \pm 1\%$
   2. The equipment shall include two isolated Form C output relay contacts pilot duty rated 480VA at 240VAC.
   3. The equipment shall include two isolated Form C output relay contacts general purpose rated 10A @ 240VAC.
   4. The equipment shall have an indicator light. The indicator light has the capability to indicate whether the phase monitor is in run mode, restart delay mode, or fault mode. Fault modes shall be low voltage, unbalance/single-phase and phase reversal.

C. Electromagnetic Compatibility
   1. The equipment shall be immune to electrostatic discharge per IEC 61000-4-2, Level 3, 6 kV contact discharge and 8 kV air discharge.
   2. The equipment shall be immune to electrical fast transient bursts exceeding IEC 61000-4-4, Level 3. Specified limits shall be 3.5kV.
   3. The equipment shall be immune to electrical surges per IEC 61000-4-5, Level 3 and Level 4. Specified limits shall be Level 3 4kV line-to-line, and Level 4 4kV line-to-ground.
   4. The equipment shall be immune to electrical surges per ANSI/IEEE C62.41 Surge and Ring Wave. Specified limits shall be 6kV line-to-line.
   5. The equipment shall be immune to radiated radio frequency emissions. Specified limits shall be 10V/m at 150 MHz.

D. Dielectric Isolation: Equipment withstands an alternating current potential of 1000V plus twice the rated voltage of the equipment for 1 minute without breakdown between uninsulated live parts and the enclosure with the contacts open and closed; between terminals of opposite polarity with the contacts closed; and between uninsulated live parts of different circuits.

E. Environmental Requirements

1. The equipment shall operate continuously without derating in surrounding air temperatures of -20° to 70°C (-4° to 158°F).
2. The equipment shall operate continuously without derating in relative humidity of 10% up to 95% non-condensing per IEC 68-2-3.
3. The equipment shall operate properly after storage in ambient temperatures of -40° to 80°C (-40° to 176°F).

F. Dimensions: The equipment dimensions shall not exceed 2.330" H x 2.375" W x 4.125" (with socket).

G. Mounting:

1. The equipment shall be mounted using the SymCom OT11 11-pin Socket.
   a. The socket shall be 300V rated.
   b. The socket shall be 10A rated.
   c. The socket shall provide a means for mounting on the surface or on a DIN rail.

End of Section