ENGINEERING SPECIFICATION
SYMCOM MODELS 202-200-SP / 202-200-SP-NHV
SINGLE PHASE VOLTAGE MONITOR/PROTECTION RELAY

PART 1 GENERAL

1.1 REFERENCES
    A. UL 508 Industrial Control Equipment – Underwriters Laboratories

1.2 WARRANTY
    A. Manufacturer Warranty: The manufacturer shall guarantee the voltage monitor 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 202-200-SP
The equipment specified shall be the Model 202-200-SP, manufactured by SymCom, Inc.

For Model 202-200-SP-NHV
The equipment specified shall be the Model 202-200-SP-NHV, manufactured by SymCom, Inc.

2.2 DESCRIPTION
    A. Regulatory Requirements:
        1. The equipment shall be UL Recognized as type NKCR2— Industrial Control Equipment-Motor Controllers-Auxiliary Devices-Component.
        2. The equipment shall be ULC Recognized as type NKCR8— Industrial Control Equipment-Motor Controllers-Auxiliary Devices Certified for Canada-Component.

2.3 PERFORMANCE/DESIGN CRITERIA: SINGLE-PHASE VOLTAGE MONITOR/PROTECTION RELAY
    A. Protective Relay Functions
        1. The voltage monitor shall provide protection against the following conditions:
          For all Models
          a. low voltage
          b. rapid cycling due to power faults*
          For Model 202-200-SP only
          c. high voltage

    B. Capabilities and Features
        1. Inputs
          a. The equipment shall accept single-phase input voltage range 190-240VAC, adjustable.
          b. The equipment shall accept single-phase input voltage at 50/60 Hz.
        2. Outputs
          a. The voltage monitor shall include one Form C (SPDT) output relay. Contacts pilot duty rated 480VA@240VAC. Contacts general purpose rated 10A@ 240VAC.
        3. Functional Specifications
          a. The voltage monitor shall include:
            1) a low voltage trip point of 90% of nominal setting
            2) a trip delay of 4 seconds
            3) a manual restart and an adjustable restart delay of 2-300 seconds
            4) voltage accuracy ±1%
          For Model 202-200-SP only
            5) a high voltage trip point of 110% of nominal setting
          b. The voltage monitor 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.
          For Model 202-200-SP only
            1) Fault modes shall include low and high voltage
          For Model 202-200-SP-NHV only
            1) Fault mode shall include low voltage

    C. Electromagnetic Compatibility
        1. The equipment shall be immune to electrical surges per IEC 61000-4-5. Specified limits shall be ±4kV line to line and line to ground.
        2. The equipment shall be immune to electrostatic discharge per IEC 61000-4-2, Level 3, 6kV contact discharge and 8kV air discharge.
        3. The equipment shall be immune to electrical fast transient bursts exceeding IEC 61000-4-4, Level 3. Specified limits shall be 4kV input power and controls.
        4. 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 one 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.

*Using the adjustable restart delay to increase time before restart after a fault.

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E. Environmental Requirements
1. The equipment shall operate continuously without derating in ambient temperatures of -40° to 70°C (-40° 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 2.5" high X 2.5" wide X 1.4" deep.

G. Mounting:
1. The equipment shall be surface mountable.

End of Section