



ENGINEERING SPECIFICATION

SYMCOM MODEL 50R-100-2 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 equipment 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

The equipment specified shall be the Model 50R-100-2, 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.

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

- A. Protective Relay Functions
 - 1. The equipment shall provide protection against the following conditions:
 - a. low voltage
 - b. rapid cycling due to power faults*
- B. Capabilities and Features
 - 1. Inputs
 - a. The equipment shall accept single-phase input voltage range of 95-120VAC.
 - b. The equipment shall accept single-phase input voltage at 50/60Hz.
 - 2. Outputs
 - a. The equipment 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 equipment shall include:
 - 1) a low voltage trip of 90% of nominal setting
 - 2) a trip delay of 4 seconds
 - 3) a manual restart
 - 4) an adjustable restart delay of 2-300 seconds
 - 5) voltage accuracy $\pm 1\%$
 - b. The equipment shall include one indicator light. The indicator light has the capability to indicate run mode, restart delay mode, or low voltage fault condition.
- C. Electromagnetic Compatibility
 - 1. The equipment shall be immune to electrostatic discharge per IEC 61000-4-2, Level 3, 6kV contact discharge and 8kV 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. Specified limits shall be ± 6 kV line-to-line and line-to-ground.
- 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 ambient 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 2.93" H X 5.27" W X 2.95" D.
- G. Mounting:
 - 1. The equipment shall be surface mountable.

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

End of Section