



ENGINEERING SPECIFICATION

SYMCOM MODEL ALT-115-X, ALT-115-X-SW, ALT-230-X, ALT-230-X-SW Alternating 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. CSA C22.2 No. 14 Industrial Control Equipment – Canadian Standards Association
- D. ANSI/IEEE C62.41 – American National Standards Institute/Institute of Electrical & Electronics Engineers

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

For Model ALT-115-X

The equipment specified shall be the Model ALT-115-X, manufactured by SymCom, Inc.

For Model ALT-230-X

The equipment specified shall be the Model ALT-230-X, manufactured by SymCom, Inc.

For Model ALT-115-X-SW

The equipment specified shall be the Model ALT-115-X-SW, manufactured by SymCom, Inc.

For Model ALT-230-X-SW

The equipment specified shall be the Model ALT-230-X-SW, manufactured by SymCom, Inc.

2.2 DESCRIPTION

A. Regulatory Requirements:

- 1. The equipment shall be UL certified:
 - a. The equipment shall be UL Recognized as type NKCR2—Industrial Control Equipment-Motor Controllers-Auxiliary Devices-Component.
 - b. The equipment shall be UL Listed, when used with SymCom's model OT08 socket, as type NKCR—Industrial Control Equipment-Motor Controllers-Auxiliary Devices.
- 2. The equipment shall be ULC certified:
 - a. The equipment shall be ULC Recognized as type NKCR8—Industrial Control Equipment-Motor Controllers-Auxiliary Devices Certified for Canada-Component.
 - b. The equipment shall be ULC Listed, when used with SymCom's model OT08 socket, as type NKCR7—Industrial Control Equipment-Motor Controllers-Auxiliary Devices Certified for Canada
- 3. The equipment shall be CSA certified as class 3211-03—Industrial Control Equipment-Motor Controllers-Auxiliary Devices.

2.3 PERFORMANCE/DESIGN CRITERIA: SINGLE-PHASE CROSS-CONNECTED ALTERNATING RELAY

A. Capabilities and Features:

- 1. Inputs
 - a. The equipment shall provide two control inputs.
For the ALT-115-X and ALT-115-X-SW
 - b. The equipment shall accept single-phase input voltage rated 95-125VAC.
For the ALT-230-X and ALT-230-X-SW
 - b. The equipment shall accept single-phase input voltage rated 195-250VAC.
- 2. Outputs
 - a. The equipment shall include DPDT output relay contacts pilot duty rated at 480VA @ 240VAC.
- 3. Functional Specifications
 - a. The equipment shall provide alternating logic.
 - 1) The equipment shall energize load 1 upon power up.
 - 2) The equipment shall alternate loads as determined by the first control input/pilot device.
 - b. The equipment shall energize both loads as determined by the second control input/pilot device.
 - c. The equipment shall have two indicator LEDs capable of indicating the status of the output relay.
For the -SW option
 - d. The equipment shall provide the following functions controlled from a dial or switch:
 - 1) Force load 1: only load 1 will be allowed to operate.
 - 2) Force load 2: only load 2 will be allowed to operate.
 - 3) Automatic: normal alternation between load 1 and load 2.

B. Electromagnetic Compatibility:



1. The equipment shall be immune to electrostatic discharge per IEC 61000-4-2, Level 2, 4kV contact discharge and 4kV air discharge.
 2. The equipment shall be immune to electrical fast transient bursts per IEC 61000-4-4, Level 3. Specified Limits shall be 2kV power supply port, 1kV input/output ports.
 3. The equipment's power supply port shall be immune to electrical surges per IEC 61000-4-5, Level 3. Specified limits shall be 2kV line-to-line and line-to-ground.
 4. The equipment shall be immune to radiated radio frequency emissions. Specified limits shall be 10V/m at 150 MHz.
- C. 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.
- D. Environmental Requirements:
1. The equipment shall operate continuously without derating in ambient temperatures of -20° to 50°C (-4° to 122°F).
 2. The equipment shall operate continuously without derating in relative humidity of 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).
- E. Dimensions: The equipment dimensions shall not exceed 1.750" H x 2.375" W x 4.125" D (with socket).
- F. Mounting:
1. The equipment shall be mounted using the SymCom OT08-PC 8-pin Socket.
 - a. The socket shall be 600V 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