



ENGINEERING SPECIFICATION
SYMCOM MODEL ALT-100-3-SW / ALT-200-3-SW
3-INPUT, 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. 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 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-100-3-SW

The equipment specified shall be the Model ALT-100-3-SW, manufactured by SymCom, Inc.

For Model ALT-200-3-SW

The equipment specified shall be the Model ALT-200-3-SW, 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-INPUT, ALTERNATING RELAY

A. Capabilities and Features

- 1. Inputs
 - a. The equipment shall include inputs for Stop, Lead, and Lag switches.
For Model ALT-100-3-SW
 - b. A voltage range of 95-120VAC.
For Model ALT-200-3-SW
 - b. A voltage range of 190-240VAC.
- 2. Outputs
 - a. The equipment shall include two relay outputs pilot duty rated 480VA @ 240VAC.
 - b. The equipment shall include two relay outputs general purpose rated 10A @ 240VAC.
- 3. Functional Specifications
 - a. The equipment shall include:
 - b. The equipment shall have an input debounce time delay of 5 seconds.
 - c. The equipment shall provide Sequence On / Simultaneous Off control.
 - 1) The equipment shall turn on one load when the Lead switch closes and two loads when the Lag switch closes.
 - 2) The equipment shall turn off both loads when all three switch inputs are open.
 - d. The equipment shall include an adjustment knob that allows three modes of operation. Load 1 forced shall allow only Load 1 to be activated if either float switch input closes. Load 2 forced shall allow only Load 2 to be activated if either float switch input closes. AUTO mode shall allow Load 1 and Load 2 to alternate the starting sequence.
 - e. The equipment shall have two indicator lights. The two lights shall indicate whether the alternating relay is energizing Load 1, energizing Load 2, energizing both Load 1 and Load 2 (when Lead and Lag switches have closed), or that there is an Out-of-Sequence fault. Out-of-Sequence faults shall be indicated by the indicator lights flashing alternately. The Out-of-Sequence fault indication shall stop when the fault condition has ended.

B. 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, 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.
- 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 surrounding air 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).
- 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