

### DANGER!



HAZARDOUS VOLTAGES MAY BE PRESENT DURING INSTALLATION.

Electrical shock can cause death or serious injury.

Installation should be done by qualified personnel following all national, state and local electrical codes.



**BE SURE POWER IS DISCONNECTED PRIOR TO INSTALLATION!  
FOLLOW NATIONAL, STATE, AND LOCAL CODES!  
READ THESE INSTRUCTIONS ENTIRELY BEFORE INSTALLATION!**

### ! WARNING !

UNEXPECTED OUTPUT ACTUATION CAN OCCUR.

Use hard-wired safety interlocks where personnel and/or equipment hazards exist.

Failure to follow this instruction can result in death, injury or equipment damage.

The Model LSRU-AL is a dual trip point load monitor. It can be used to determine feed rates, tool wear, loss of prime on pumps, mixer viscosity, and all types of over and under load conditions. When the current draw is within the limits defined by the two user adjustments, the relay is energized. When the current falls outside of this range for one second, the relay will de-energize.

### INSTALLATION

1. Mount the Model LSRU-AL near one of the conductors of the load being monitored. If the unit will be used in a dusty or wet environment, an appropriate NEMA rated enclosure should be used.
2. Insert one of the conductors of the load through the sensor hole in the LSRU-AL.
  - a) For currents greater than 1 amp, proceed to step #3.
  - b) For currents less than 1 amp, the conductor must be looped. Refer to the table below to determine the number of conductors needed through the sensor window.

**NOTE: The OC and/or UC trip points must be set based on ' $I_{eff}$ ' for current range 1 units.**

ACTUAL CURRENT	NUMBER OF CONDUCTORS	EFFECTIVE CURRENT ( $I_{eff}$ )
0.5 - 1.0	3	1.5 - 3.0
0.25 - 0.5	5	1.25 - 2.5

For values less than 0.25 consult the factory.

3. Turn the user adjustments to the desired settings.
4. Wire the appropriate control voltage to L1 and L2.
5. Connect the output relay to the control circuitry. The proper wiring scheme may vary depending on the required action when a fault occurs. (A wiring diagram is shown in Figure 1 that utilizes the NO contact.)



6. Energize the load to be monitored. Verify normal running amps have been achieved. The LED will be lit under normal operating conditions (the current sensed is at an acceptable level) indicating the output contacts are energized (NO is closed and NC is open).

**NOTE: The LSRU-AL is a fail-safe design, meaning the NO (normally open contact) will be open if the LSRU fails or control power is interrupted.**

7. The installation is now complete.

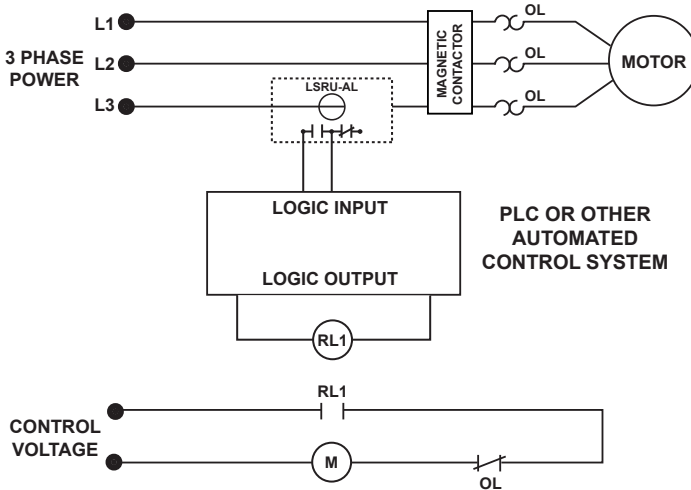


FIGURE 1: TYPICAL WIRING DIAGRAM

### Unit Description

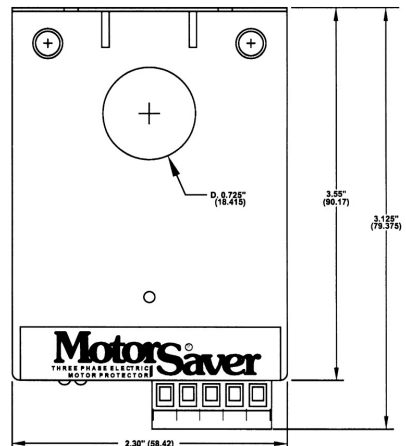
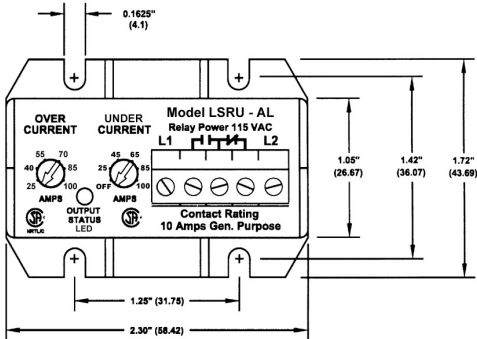
Model #	Voltage Range	Options	Current Range
LSRU	024 - 18 to 30 VAC 115 - 90 to 135 VAC	A L	1 - 0 to 5 Amps 2 - 5 to 25 Amps 3 - 25 to 100 Amps

**Any questions or comments call SymCom at 1-800-843-8848 or 1-605-348-5580**

SymCom warrants its microcontroller based products against defects in material or workmanship for a period of five (5) years from the date of manufacture. All other products manufactured by SymCom shall be warranted against defects in material and workmanship for a period of two (2) years from the date of manufacture. For complete information on warranty, liability, terms, and conditions, please refer to the SymCom Terms and Conditions of Sale document.

### MODEL LSRU-AL SPECIFICATIONS

<b>CONTROL VOLTAGE</b>	
LSRU-024-xx-x	18 - 30 VAC
LSRU-115-xx-x	90 - 135 VAC
<b>FREQUENCY</b>	
50 to 60 Hz	
<b>POWER</b>	
2 Watts (Maximum)	
<b>CURRENT RANGE</b>	
LSRU-xxx-AL-1	0 - 5 Amps
LSRU-xxx-AL-1.5	0 - 10 Amps
LSRU-xxx-AL-2	5 - 25 Amps
LSRU-xxx-AL-3	25 - 100 Amps
<b>ADJUSTMENTS</b>	
Overcurrent (can not be set below UC)	Adjustable through entire current range
Undercurrent (can not be set above OC)	Adjustable through entire current range
<b>FIXED TRIP DELAY</b>	
1 Second	
<b>FIXED RESTART DELAY</b>	
Unit will energize the contacts as soon as the current level is within limits	
<b>MOTOR ACCELERATION TIME</b>	
2 Seconds	
<b>REPEATABILITY</b>	
Current	±2%
Timing	±10%
<b>ISOLATION</b>	
600 VAC	
<b>OUTPUT CONTACT RATING - SPDT</b>	
Pilot Duty Rating	480 VA @ 240 VAC
General Purpose Rating	10 A @ 240 VAC
<b>OPERATING TEMPERATURE</b>	
-40° to +70° C	
<b>TERMINALS</b>	
Wire AWG	#12 - #24
Maximum Torque	7 inch-pounds
<b>STANDARDS PASSED</b>	
CSA and CSA-NRTL/C	LR 46510-35



Visit our website at [www.symcominc.com](http://www.symcominc.com) for our complete catalog and new product listings!



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