

## LSRU SERIES

### Load sensor



### Description

The LSRU Series is a microcontroller-based family of load sensors. The LSRU family of products employ three basic types of control logic: motor control logic, alarm logic and feed control logic.

#### Motor Control Logic

Several combinations of functions are available in the LSRU, including overcurrent and undercurrent or either overcurrent or undercurrent with variable trip, restart or extended restart delay settings. These various versions of the LSRU trip on the respective fault and then automatically reset after the restart delay expires, in preparation for the next motor start. LSRUs do not trip on undercurrent when the load turns off, this is recognized as a normal condition.

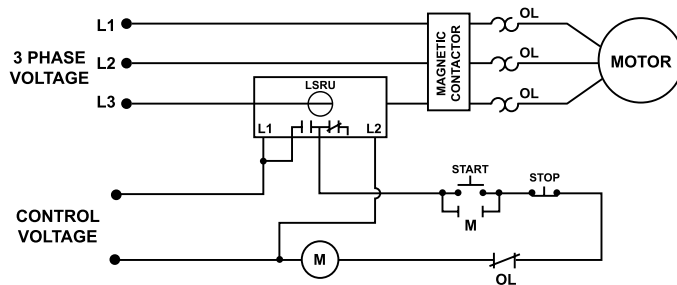
#### Alarm Logic

The LSRU-AL simply indicates whether the current is between the setpoints or outside of the setpoints. This product is best used with a PLC or other controller where status indication is desired.

#### Feed Control

The LSRU-FC is a load monitor intended to control feeder mechanisms in a variety of applications. It stops the feeder when the grinder, chipper, saw, auger, etc. nears overload. When the load is reduced to a preset level, the feeder is restarted.

### Wiring Diagram



### Ordering Information

See next page.

### Features & Benefits

| FEATURES                                | BENEFITS   |
|---|--|
| <b>LED indicator</b>                    | Visual indication of relay status  |
| <b>Built in current sensor</b>          | Eliminates the need for a stand alone current transformer and also provides isolation between the monitored and control circuits |
| <b>Adjustable current sensing range</b> | Provides ability to precisely set the current trip point for any application   |

# LSRU SERIES

## Ordering Information

| MODEL           | LINE VOTAGE | CURRENT RANGE | DESCRIPTION  |
|-----------------|-------------|---------------|--|
| LSRU-024-AL-2   | 24VAC       | 5-25A         | Alarm logic  |
| LSRU-024-AL-3   | 24VAC       | 25-100A       | Alarm logic  |
| LSRU-115-AL-1.5 | 115VAC      | 0-10A         | Alarm logic  |
| LSRU-115-AL-2   | 115VAC      | 5-25A         | Alarm logic  |
| LSRU-115-AL-3   | 115VAC      | 25-100A       | Alarm logic  |
| LSRU-115-FC-1.5 | 115VAC      | 0-10A         | Feed control logic   |
| LSRU-115-OT-1.5 | 115VAC      | 0-10A         | Motor control logic with overcurrent trip, adj trip delay (0.5-60s)                |
| LSRU-115-OT-2   | 115VAC      | 5-25A         | Motor control logic with overcurrent trip, adj trip delay (0.5-60s)                |
| LSRU-115-OT-3   | 115VAC      | 25-100A       | Motor control logic with overcurrent trip, adj trip delay (0.5-60s)                |
| LSRU-115-OR-1.5 | 115VAC      | 0-10A         | Motor control logic with overcurrent trip, adj restart delay (0.5-300s, manual)    |
| LSRU-115-OR-2   | 115VAC      | 5-25A         | Motor control logic with overcurrent trip, adj restart delay (0.5-300s, manual)    |
| LSRU-115-UE-2   | 115VAC      | 5-25A         | Motor control logic with undercurrent trip, adj ext restart delay (2-300m, manual) |
| LSRU-115-UT-2   | 115VAC      | 5-25A         | Motor control logic with undercurrent trip, adj trip delay (0.5-60s)               |
| LSRU-115-UT-3   | 115VAC      | 25-100A       | Motor control logic with undercurrent trip, adj trip delay (0.5-60s)               |
| LSRU-115-UR-2   | 115VAC      | 5-25A         | Motor control logic with undercurrent trip, adj restart delay (0.5-300s, manual)   |
| LSRU-115-OU-1.5 | 115VAC      | 0-10A         | Motor control logic with overcurrent and undercurrent trip                         |
| LSRU-115-OU-2   | 115VAC      | 5-25A         | Motor control logic with overcurrent and undercurrent trip                         |
| LSRU-115-OU-3   | 115VAC      | 25-100A       | Motor control logic with overcurrent and undercurrent trip                         |

**PART # KEY**

O = Overcurrent Trip

U = Undercurrent Trip

T = Adj. Trip Delay (0.5-60 seconds)

R = Adj. Restart Delay (0.5-300 seconds, Manual)

E = Adj. Extended Restart Delay (2-300 minutes, Manual)

1.5 = 0-10 Amps

2 = 5-25 Amps

3 = 25-100 Amps

## Specifications

### Functional Characteristics

|  |                                     |
|--|-------------------------------------|
| <b>Isolation</b>                       | 600VAC rms                          |
| <b>Power</b>                           | 2 Watts                             |
| <b>Motor Acceleration Time</b>         | 2 seconds                           |
| <b>When not selected as an option:</b> |                                     |
| <b>Fixed Trip Delay (-AL, -FC)</b>     | 0.5 second                          |
| <b>Fixed Restart Delay (-AL only)</b>  | 1 second                            |
| <b>(-FC only)</b>                      | as soon as current is within limits |
| <b>Input Characteristics</b>           |                                     |
| <b>Control Power</b>                   | 24VAC or 115VAC                     |
| <b>Output Characteristics</b>          |                                     |
| <b>Output Contact Rating (SPDT)</b>    |                                     |
| <b>Pilot Duty</b>                      | 480VA @ 240VAC                      |
| <b>General Purpose</b>                 | 10A @ 240VAC                        |

### General Characteristics

|                          |   |
|--------------------------|---|
| <b>Temperature Range</b> | -40° to 70°C (-40° to 158°F)  |
| <b>Wire Size</b>         | #12-24AWG   |
| <b>Hole Size</b>         | 0.725" diameter   |
| <b>Terminal Torque</b>   | 7 in.-lbs.  |
| <b>Safety Marks</b>      |   |
| <b>CSA, CSA-NRTL/C</b>   | (File #46510)   |
| <b>CE</b>                |   |
| <b>Dimensions</b>        | <b>H</b> 42.42 mm (1.67"); <b>W</b> 58.42 mm (2.3");<br><b>D</b> 90.43 mm (3.56") |
| <b>Weight</b>            | 0.5 lb. (8 oz., 226.8 g)  |
| <b>Mounting Method</b>   | Four #6 screws 3/4" in length   |

**Caution:** This product should not be relied upon solely for safety of life or safety applications.