

# L-Series

## SEALED ROCKER SWITCHES

The L-Series rocker switch is an innovative product offering total design flexibility, while at the same time setting new standards for performance and reliability. Its versatile design features include a neatly proportioned size that fits into an industry standard mounting hole of 1.734 x .867 (44.0mm x 22.0mm), countless unique choices for ratings, circuits, colors, illuminations and laser etched legends. These single or double pole switches also feature a broad choice of actuator styles, colors, and lenses with up to twelve terminals offering an extensive range of switch and lamp circuit options, including LED or incandescent illumination. Additionally, an optional plug-in terminal connector enables pre-wiring of wire harness.



### Resources:

*Download 3D CAD Files*

[IGS >](#) [STP >](#)

*Watch Product Video*



### Product Highlights:

- ♦ IP67 certified sealed front panel components
- ♦ Withstands temperatures from -40°C to +85°C
- ♦ Vibration, shock, thermoshock, moisture and salt spray resistant

### Typical Applications:

- ♦ Construction machinery
- ♦ Agricultural equipment
- ♦ On-highway transportation equipment



**Carling Technologies®**  
Innovative Designs. Powerful Solutions.

**Carling Technologies, Inc.**  
60 Johnson Avenue, Plainville, CT 06062  
Email: [sales@carlingtech.com](mailto:sales@carlingtech.com)  
Application Support: [team2@carlingtech.com](mailto:team2@carlingtech.com)  
Phone: 860.793.9281 Fax: 860.793.9231

[www.carlingtech.com](http://www.carlingtech.com)

# L-Series Switch

## DESIGN FEATURES

### LED LIGHTING

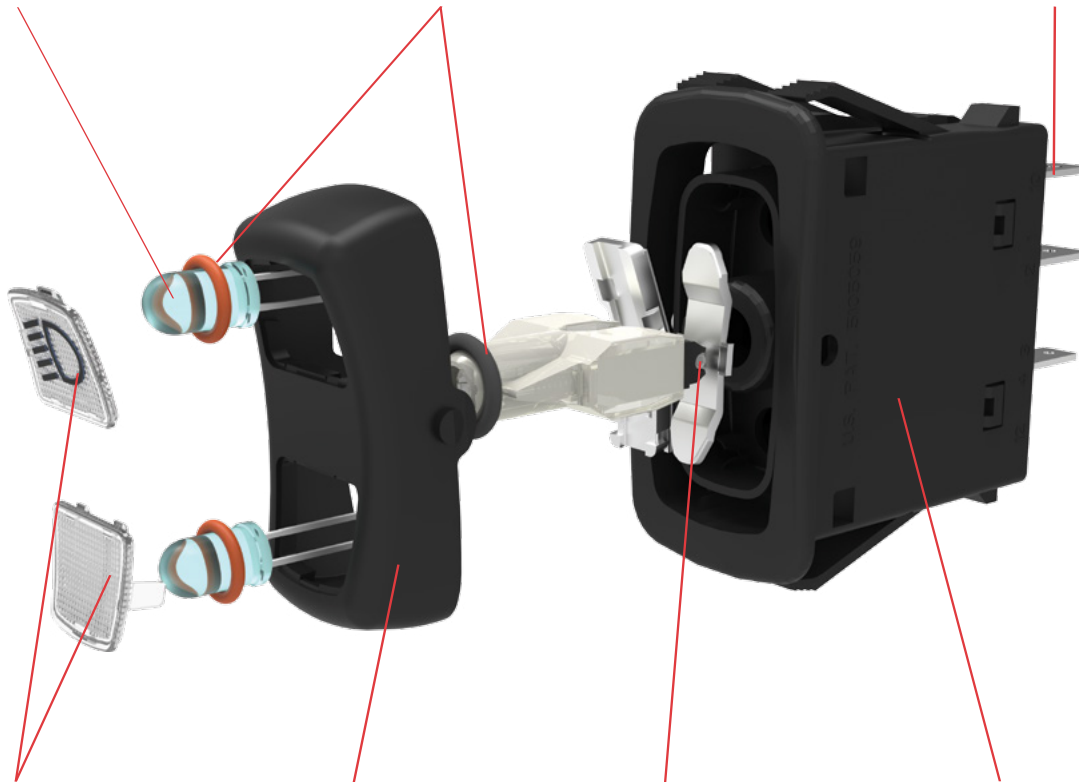
Utilize less current and are not affected by vibration, providing long lasting illumination. Available in 3 standard colors.

### SEAL PROTECTION

Locks out elements such as water, dust & debris. Certified to IP67 for front panel components.

### TERMINALS

Available with 2 industry standard termination options: .250 or .187 tabs with up to 12 terminal options.



### LENS & LEGENDS

Lens available in 2 sizes and 6 standard colors in either translucent or transparent materials. Numerous symbols and text available for imprinting or laser etching.

### ACTUATOR

Available in rocker or paddle styles. Several standard color options also available.

### ROLLER PIN

Eliminates need for lubricants, increasing the temperature range of the switch from -40° C to +85° C [-40° F to 185° F].

### BASE

Fits into industry standard mounting hole of 1.734 x .867 in [44.0mm x 22.0mm].

\*Manufacturer reserves the right to change product specification without prior notice.

## Electrical

|                            |                                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------|
| Contact Rating             | .4VA @ 24VDC (MAX) resistive<br>15 amps, 125VAC<br>10 amps, 250VAC<br>20 amps, 4-14VDC<br>15 amps, 15-28VDC |
| Dielectric Strength        | 1250 Volts RMS between pole to pole<br>3750 Volts RMS between live parts and accessible surfaces            |
| Insulation Resistance      | 50 Megaohms                                                                                                 |
| Initial Contact Resistance | 10 milliohms max. @ 4 VDC                                                                                   |
| Life                       | 100,000 cycles maintained,<br>50,000 cycles momentary at rated voltage and current                          |
| Contacts                   | 90/10 silver-nickel, silver tin-oxide, gold                                                                 |
| Terminals                  | Brass or copper/silver plate<br>3/16" (4.76mm) & 1/4" (6.3mm)<br>Quick Connect terminations standard.       |

## Mechanical

|           |                        |
|-----------|------------------------|
| Endurance | 250,000 cycles minimum |
|-----------|------------------------|

## Physical

|           |                                                                                                                              |
|-----------|------------------------------------------------------------------------------------------------------------------------------|
| Lighted   | Incandescent - rated 10,000 hours<br>LED - rated 100,000 hours 1/2 life (LED is internally ballasted for voltages to 24 VDC) |
| Seals     | Rocker, base & bracket are sealed.                                                                                           |
| Base      | Nylon 66 GF rated to 85°C with a flammability rating of 94V0.                                                                |
| Actuator  | Basic actuator structure molded of thermoplastic polycarbonate with a hard Nylon 66 thermoplastic surface overlay.           |
| Lock      | Acetal                                                                                                                       |
| Lens      | Polycarbonate rated at 100°C                                                                                                 |
| Function  | 2 & 3 Position Rocker Style                                                                                                  |
| Bracket   | Nylon Zytel                                                                                                                  |
| Connector | Nylon 66 rated at 85°C. Polarized.                                                                                           |

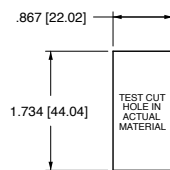
## Actuator Travel (Angular Displacement)

|             |                 |
|-------------|-----------------|
| 2 position  | 26°             |
| 3 positions | 13° from center |

## Environmental

|                       |                                                                                                                                                                                                                                                        |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental         | IP67 for above panel components of the actual switch, representing an index of protection as applied to electrical equipment in accordance with IEC 529, BS 5490, DIN 40050 & NFC 20 010.                                                              |
| Corrosion             | Mixed Flowing Gas MFG Class III per ASTM B-827 & B-845, Method H, with 3 years exposure.                                                                                                                                                               |
| Operating Temperature | -40°C to + 85°C                                                                                                                                                                                                                                        |
| Vibration 1           | Per Mil-Std 202F, Method 204D Test Condition A 0.06 DA or 10G's 10-500 Hz. Tested with VCH connector. Test criteria - No loss of circuit during test and pre and post test contact resistance.                                                         |
| Vibration 2           | Resonance search<br>24-50 Hz 0.40 DA<br>50-2000 ±10 G's peak<br>Results Horizontal Axis 3-5 G's max.<br>Random<br>24 Hz 0.06 PSD-Gsq/Hz<br>60 Hz 0.50<br>100 Hz 0.50<br>200 Hz 0.025<br>2000 Hz 0.025<br>No loss of circuit during test; <10µ chatter. |
| Shock                 | Per Mil-Std 202F, Method 213B, Test Condition K @ 30G's. Tested with VCH connector. Test criteria - No loss of circuit during test, pre, and post test contact resistance.                                                                             |
| Salt Spray            | Per Mil-Std 202F, Method 101D, Test Condition A, 48 Hrs.                                                                                                                                                                                               |
| Thermal Shock         | Per Mil-Std 202F, Method 107F, Test Condition A, -55°C to 85°C. Test criteria - pre and post test contact resistance.                                                                                                                                  |
| Moisture Resistance   | Per Mil-Std 202F, Method 106F, Test Criteria - pre and post test contact resistance.                                                                                                                                                                   |

## Mounting Specifications



**Panel Thickness Range**  
Acceptable Panel Thickness  
.030 to .156 (.76mm to 3.96mm)  
Recommended:  
.030, .062, .093, .125 and .156

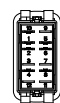
|          |           |          |               |                |          |          |           |   |            |                       |                       |           |   |                       |                         |
|----------|-----------|----------|---------------|----------------|----------|----------|-----------|---|------------|-----------------------|-----------------------|-----------|---|-----------------------|-------------------------|
| <b>L</b> | <b>11</b> | <b>E</b> | <b>3</b>      | <b>C</b>       | <b>H</b> | <b>N</b> | <b>1</b>  | - | <b>3</b>   | <b>A</b>              | <b>A</b>              | <b>45</b> | - | <b>1</b>              | <b>48</b>               |
| 1 Series | 2 Circuit | 3 Rating | 4 Termination | 5 Illumination | 6 Lamp   | 7 Lamp   | 8 Bracket |   | 9 Actuator | 10 Lens Style & Color | 11 Lens Style & Color | 12 Legend |   | 13 Legend Orientation | 14 Actuator Lens Legend |

### 1 SERIES

**L**

### 2 CIRCUIT <sup>2</sup>

Terminal Orientation



( ) - momentary

SP - single pole - uses terminals 1, 2 & 4.

DP - double pole uses terminals 5, 6 & 8.

Terminals 9, 10 & 11 for lamp circuit only.

| Position: | 1            | 2                   | 3            |
|-----------|--------------|---------------------|--------------|
| SP DP     | 2 & 4, 6 & 8 | Connected Terminals | 1 & 2, 5 & 6 |
| 11 21     | ON           | NONE                | OFF          |
| 12 22     | (ON)         | NONE                | OFF          |
| 13 23     | ON           | NONE                | (OFF)        |
| 14 24     | ON           | NONE                | ON           |
| 15 25     | ON           | NONE                | (ON)         |
| 16 26     | ON           | OFF                 | ON           |
| 17 27     | ON           | OFF                 | (ON)         |
| 18 28     | (ON)         | OFF                 | (ON)         |

### CIRCUITS WITH JUMPER TERMINALS

|     |                  |          |                  |
|-----|------------------|----------|------------------|
| 30* | (2,4&5), (1,6&8) | OFF, OFF | (1,2&8), (4,5&6) |
| 31  | 1, 2 & 5         | 2, 3 & 7 | 2, 4 & 8         |

### PROGRESSIVE CIRCUITS

|     |                  |              |                  |
|-----|------------------|--------------|------------------|
| 51  | 3 & 4            | 2, 3         | 1 & 2            |
| 52  | 3 & 4            | 2, 3         | OFF              |
| 53  | (3 & 4)          | 2, 3         | 1 & 2            |
| 54  | (3 & 4)          | 2, 3         | (OFF)            |
| 55  | (3 & 4)          | 2, 3         | (1 & 2)          |
| 56  | (3 & 4)          | 2, 3         | (OFF)            |
| 57  | 3 & 4            | 2, 3         | (OFF)            |
| 58* | 2 & 4            | 2, 3         | 1 & 2            |
| 61  | 3 & 4, 7 & 8     | 2 & 3, 6 & 7 | 1 & 2, 5 & 6     |
| 62  | 3 & 4, 7 & 8     | 2 & 3, 6 & 7 | OFF, OFF         |
| 63  | (3 & 4), (7 & 8) | 2 & 3, 6 & 7 | 1 & 2, 5 & 6     |
| 64  | (3 & 4), (7 & 8) | 2 & 3, 6 & 7 | OFF, OFF         |
| 65  | (3 & 4), (7 & 8) | 2 & 3, 6 & 7 | (1 & 2), (5 & 6) |
| 66  | (3 & 4), (7 & 8) | 2 & 3, 6 & 7 | (OFF, OFF)       |
| 67  | 3 & 4, 7 & 8     | 2 & 3, 6 & 7 | (OFF, OFF)       |
| 68  | 2 & 4, 7 & 8     | 2 & 4, OFF   | OFF, OFF         |
| 69* | 2 & 4, 1, 7 & 8  | 2 & 4, OFF   | OFF, OFF         |
| 70  | (2 & 4), (7 & 8) | 2 & 4, 5 & 7 | (1 & 2), (5 & 7) |
| 71  | (2&4), (7 & 8)   | 2 & 4, 5 & 7 | 1 & 2, 5 & 7     |
| 72  | 2 & 4, 7 & 8     | 2 & 4, 5 & 7 | 1 & 2, 5 & 7     |
| 73  | (2 & 4), (7 & 8) | 2 & 4, OFF   | OFF, OFF         |
| 80  | 2 & 4, 6 & 8     | 2 & 4, OFF   | OFF, 5 & 6       |

### HAZARD WARNING CIRCUITS

|    |                 |      |            |
|----|-----------------|------|------------|
| A2 | 6, 7 & 8, 3 & 4 | NONE | OFF, 1 & 2 |
| A3 | 6, 7 & 8, 2 & 4 | NONE | OFF, 1 & 2 |

\* Available with ratings 1, 4, & E only.

### 3 RATING <sup>2</sup>

|   |                                                   |
|---|---------------------------------------------------|
| 1 | .4VA @ 28VDC Resistive                            |
| 4 | 10A 250VAC 1/2 HP, 15A 125VAC 1/2 HP, No Listings |
| B | 15A 24V                                           |
| C | 20A 18V                                           |
| D | 20A 12V                                           |
| E | 15A 12V                                           |
| G | 20A 6V                                            |
| H | 20A 3V                                            |

### 4 TERMINATION <sup>2,3</sup>

|   |                       |
|---|-----------------------|
| 1 | .250 (6.4mm) TAB (QC) |
| 3 | .187 (4.7mm) TAB (QC) |

Do not use silicone based lubricants to reduce terminal insertion forces during connector assembly, as it is detrimental to function and performance.

### Notes:

Consult factory to verify horsepower rating for your particular circuit choice.

1 Custom colors are available. Consult factory.

2 Circuits 30, 31, 58, 69 are not available with rating codes 4, C, D, G or H.

3 Termination 3 only available with rating codes 1, B, and E.

4 Not available with circuits 11-18, 51-57 and 69.

### 5 ILLUMINATION

Lamp #1: above terminals 9 & 10 end of switch.; Lamp #2 above terminals 11 & 12 end of switch. Positive (+) and negative (-) symbols apply to LED lamps only.

|                | Lamps | Illumination Type | Lamp Wired to Terminals |
|----------------|-------|-------------------|-------------------------|
| S              | None  |                   |                         |
| A              | # 1   | Independent       | 10+ 9-                  |
| B              | # 2   | Independent       | 12+ 11-                 |
| C              | # 1   | Independent       | 10+ 9-                  |
|                | & # 2 | Independent       | 12+ 9-                  |
| D              | # 1   | Dependent         | 4+ 9-                   |
| E              | # 1   | Independent       | 10+ 9-                  |
|                | & # 2 | Dependent         | 4+ 9-                   |
| F <sup>4</sup> | # 1   | Independent       | 10+ 9-                  |
|                | & # 2 | Dependent         | 8+ 9-                   |
| G              | # 1   | Dependent         | 4+ 9-                   |
|                | & # 2 | Independent       | 10+ 9-                  |
| H              | # 1   | Both Independent  | 10+ 9-                  |
|                | & # 2 | (in series)       |                         |
| J              | # 1   | Dependent         | 4+ 9-                   |
|                | & # 2 | Dependent         | 1+ 9-                   |
| 1              | # 2   | Hazard            | 6+ 10- 12-              |
| 2              | # 1   | Hazard            | 6+ 10- 12-              |

### 6,7 LAMP (SAME CODING FOR BOTH SELECTIONS)

Selection 6: above terminals 10 & 9; Selection 7: above terminals 12 & 11

|              |      |       |       |       |       |
|--------------|------|-------|-------|-------|-------|
| No lamp      | 0    |       |       |       |       |
| Incandescent | 4 3V | 5 6V  | 6 12V | 7 18V | 8 24V |
| LED*         | Red  | Amber | Green |       |       |
| 2VDC         | A    | L     | F     |       |       |
| 6VDC         | B    | M     | G     |       |       |
| 12VDC        | C    | N     | H     |       |       |
| 24VDC        | D    | P     | J     |       |       |

\* Consult factory for "daylight bright", blue/green and white LED options.  
Typical current draw for LED is 20ma.

### 8 BRACKET COLOR <sup>1</sup>

|                       | Black | White | Gray | Red |
|-----------------------|-------|-------|------|-----|
| Standard Bracket      | 1     | 2     | 3    | 4   |
| Rockerguard at Lamp 1 | A     | B     | C    | D   |
| Rockerguard at Lamp 2 | E     | F     | G    | H   |

### 9 ACTUATOR STYLE AND COLOR <sup>1</sup>

|        | Black | White | Gray | Red | Laser Etched |
|--------|-------|-------|------|-----|--------------|
| Rocker | A     | B     | C    | D   | 3            |
| Paddle | J     | N     | K    | M   | 4            |

### 10 & 11 LENS STYLE AND COLOR

Lens color for LEDs must be clear, white, or match color of LED.

0 - No Actuator Z - No Lens

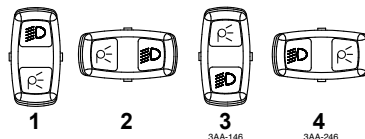
|   | Clear | White | Amber | Green | Red | Blue                          |
|---|-------|-------|-------|-------|-----|-------------------------------|
| 1 | -     | B     | G     | M     | T   | Large Transparent             |
| - | 7     | C     | H     | N     | U   | Large Translucent             |
| 3 | -     | D     | J     | P     | V   | Bar Transparent               |
| - | 9     | E     | K     | R     | W   | Bar Translucent               |
| 5 | A     | -     | -     | -     | -   | Laser Etched background color |

### 12 LASER ETCHED, LENS OR BODY LEGEND

00 No legend this location / no actuator  
For legend options & codes, visit us at [carlingtech.com](http://carlingtech.com)

### 13 LEGEND ORIENTATION

- 0 No legend (used with codes 11-18 in selection 12)
- 1 Orientation 1 - vertical, lamp 1 on top
- 2 Orientation 2 - horizontal, lamp 1 on right
- 3 Orientation 3 - vertical, lamp 1 on bottom
- 4 Orientation 4 - vertical, lamp 1 on left



### 14 ACTUATOR LENS LEGEND

00 No legend this location / no actuator  
For legend options & codes, visit us at [carlingtech.com](http://carlingtech.com)

|             |              |             |                  |                   |           |           |              |               |            |            |              |                             |          |          |
|-------------|--------------|-------------|------------------|-------------------|-----------|-----------|--------------|---------------|------------|------------|--------------|-----------------------------|----------|----------|
| <b>L</b>    | <b>11</b>    | <b>D</b>    | <b>1</b>         | <b>S</b>          | <b>W</b>  | <b>C</b>  | <b>J</b>     | <b>-</b>      | <b>P</b>   | <b>M</b>   | <b>H</b>     | <b>00</b>                   | <b>-</b> | <b>0</b> |
| 1<br>Series | 2<br>Circuit | 3<br>Rating | 4<br>Termination | 5<br>Illumination | 6<br>Lock | 7<br>Lamp | 8<br>Bracket | 9<br>Actuator | 10<br>Lens | 11<br>Lock | 12<br>Legend | 13<br>Legend<br>Orientation |          |          |

### 1 SERIES L

### 2 CIRCUIT <sup>5</sup>

Terminal Orientation



( ) - momentary

SP - single pole - uses terminals 1, 2 & 4.  
 DP - double pole uses terminals 5, 6 & 8.  
 Terminals 9, 10 & 11 for lamp circuit only.

| Position:                      | 1                | 2                   | 3                |
|--------------------------------|------------------|---------------------|------------------|
| SP DP                          | 2 & 4, 6 & 8     | Connected Terminals | 1 & 2, 5 & 6     |
| 11 21                          | ON               | NONE                | OFF              |
| 14 24                          | ON               | NONE                | ON               |
| 16 26                          | ON               | OFF                 | ON               |
| 17 27                          | ON               | OFF                 | (ON)             |
| 18 28                          | (ON)             | OFF                 | (ON)             |
| CIRCUITS WITH JUMPER TERMINALS |                  |                     |                  |
| 30 <sup>2</sup>                | (2,4&5), (1,6&8) | OFF, OFF            | (1,2&8), (4,5&6) |
| 31 <sup>2</sup>                | 1, 2 & 5         | 2, 3 & 7            | 2, 4 & 8         |
| PROGRESSIVE CIRCUITS           |                  |                     |                  |
| 51                             | 3 & 4            | 2, 3                | 1 & 2            |
| 52                             | 3 & 4            | 2, 3                | OFF              |
| 53                             | (3 & 4)          | 2, 3                | 1 & 2            |
| 54                             | (3 & 4)          | 2, 3                | (OFF)            |
| 55                             | (3 & 4)          | 2, 3                | (1 & 2)          |
| 56                             | (3 & 4)          | 2, 3                | (OFF)            |
| 57                             | 3 & 4            | 2, 3                | (OFF)            |
| 58                             | 2 & 4            | 2, 3                | 1 & 2            |
| 61                             | 3 & 4, 7 & 8     | 2 & 3, 6 & 7        | 1 & 2, 5 & 6     |
| 62                             | 3 & 4, 7 & 8     | 2 & 3, 6 & 7        | OFF, OFF         |
| 63                             | (3 & 4), (7 & 8) | 2 & 3, 6 & 7        | 1 & 2, 5 & 6     |
| 64                             | (3 & 4), (7 & 8) | 2 & 3, 6 & 7        | OFF, OFF         |
| 65                             | (3 & 4), (7 & 8) | 2 & 3, 6 & 7        | (1 & 2), (5 & 6) |
| 66                             | (3 & 4), (7 & 8) | 2 & 3, 6 & 7        | (OFF, OFF)       |
| 67                             | 3 & 4, 7 & 8     | 2 & 3, 6 & 7        | (OFF, OFF)       |
| 68                             | 2 & 4, 7 & 8     | 2 & 4, OFF          | OFF, OFF         |
| 69                             | 2 & 4, 1, 7 & 8  | 2 & 4, OFF          | OFF, OFF         |
| 70                             | (2 & 4), (7 & 8) | 2 & 4, 5 & 7        | (1 & 2), (5 & 7) |
| 71                             | (2&4), (7 & 8)   | 2 & 4, 5 & 7        | 1 & 2, 5 & 7     |
| 72                             | 2 & 4, 7 & 8     | 2 & 4, 5 & 7        | 1 & 2, 5 & 7     |
| 73                             | (2 & 4), (7 & 8) | 2 & 4, OFF          | OFF, OFF         |
| 80                             | 2 & 4, 6 & 8     | 2 & 4, OFF          | OFF, 5 & 6       |

### 3 RATING <sup>2</sup>

|   |                                                   |
|---|---------------------------------------------------|
| 1 | .4VA @ 28VDC Resistive                            |
| 4 | 10A 250VAC 1/2 HP, 15A 125VAC 1/2 HP, No Listings |
| B | 15A 24V                                           |
| C | 20A 18V                                           |
| D | 20A 12V                                           |
| E | 15A 12V                                           |
| G | 20A 6V                                            |
| H | 20A 3V                                            |

### 4 TERMINATION <sup>4</sup>

|   |                       |
|---|-----------------------|
| 1 | .250 (6.4mm) TAB (QC) |
| 3 | .187 (4.7mm) TAB (QC) |

Do not use silicone based lubricants to reduce terminal insertion forces during connector assembly, as it is detrimental to function and performance.

### 5 ILLUMINATION

Lamp #1: above terminals 9 & 10 end of switch.; Lamp #2 above terminals 11 & 12 end of switch. Positive (+) and negative (-) symbols apply to LED lamps only.

| Lamps | Illumination Type | Lamp Wired to Terminals |
|-------|-------------------|-------------------------|
| S     | None              |                         |
| B     | # 2               | Independent 12+ 11-     |

### 6 LOCK

**W** Lock above terminals 10 & 9.

### 7 LAMP

Above terminals 12 &amp; 11

|              |      |       |       |       |       |
|--------------|------|-------|-------|-------|-------|
| No lamp      | 0    |       |       |       |       |
| Incandescent | 4 3V | 5 6V  | 6 12V | 7 18V | 8 24V |
| LED*         | Red  | Amber | Green |       |       |
| 2VDC         | A    | L     | F     |       |       |
| 6VDC         | B    | M     | G     |       |       |
| 12VDC        | C    | N     | H     |       |       |
| 24VDC        | D    | P     | J     |       |       |

\* Consult factory for "daylight bright", blue/green and white LED options.  
 Typical current draw for LED is 20ma.

### 8 BRACKET COLOR <sup>1</sup>

**J** Black

### 9 ACTUATOR STYLE AND COLOR <sup>1</sup>

|                |          |          |
|----------------|----------|----------|
|                | Black    | Red      |
| Locking Rocker | <b>P</b> | <b>R</b> |

### 10 & 11 LENS STYLE AND COLOR

Lens color for LEDs must be clear, white, or match color of LED.

0 - No Actuator Z - No Lens

|       |       |       |       |     |      |
|-------|-------|-------|-------|-----|------|
| Clear | White | Amber | Green | Red | Blue |
| 1     | -     | B     | G     | M   | T    |
| -     | 7     | C     | H     | N   | U    |
| 3     | -     | D     | J     | P   | V    |
| -     | 9     | E     | K     | R   | W    |

### 11 LOCK FUNCTION AND COLOR

Locking Position

| Up | Down | Up & Down | Center <sup>3</sup> | Lock Color     |
|----|------|-----------|---------------------|----------------|
| A  | H    | R         | 1                   | Match Actuator |
| B  | J    | S         | 2                   | Black          |
| C  | K    | T         | 3                   | White          |
| D  | L    | V         | 4                   | Red            |
| E  | M    | W         | 5                   | Safety Orange  |

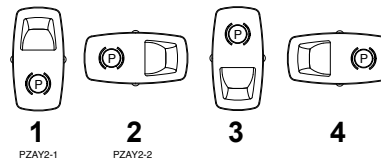
### 12 LASER ETCHED, LENS OR BODY LEGEND

00 No legend this location / no actuator

For legend options & codes, visit us at [carlingtech.com](http://carlingtech.com)

### 13 LEGEND ORIENTATION

- 0 No legend (used with codes 11-18 in selection 12)
- 1 Orientation 1 - vertical, lamp 1 on top
- 2 Orientation 2 - horizontal, lamp 1 on right
- 3 Orientation 3 - vertical, lamp 1 on bottom
- 4 Orientation 4 - vertical, lamp 1 on left



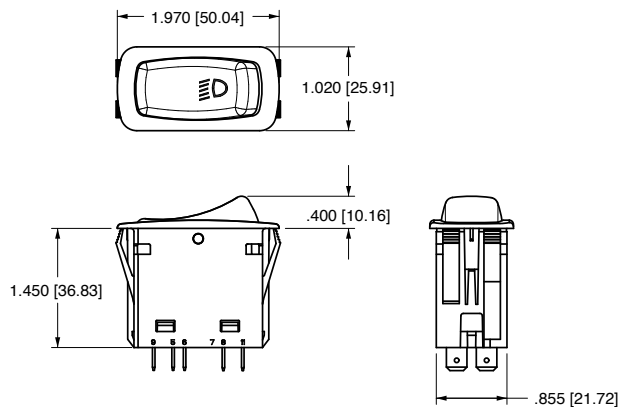
#### Notes:

Consult factory to verify horsepower rating for your particular circuit choice.

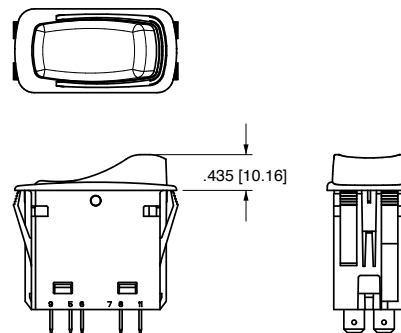
- 1 Custom colors are available. Consult factory.
- 2 Additional lamp circuits available. Consult factory.
- 3 Available only with 3 position circuits.
- 4 Termination 3 only available with ratings 1, B and E.
- 5 Circuits 30, 31, 58 and 69, are not available with rating codes 4, C, D, G or H.

## Dimensional Specifications: in. [mm]

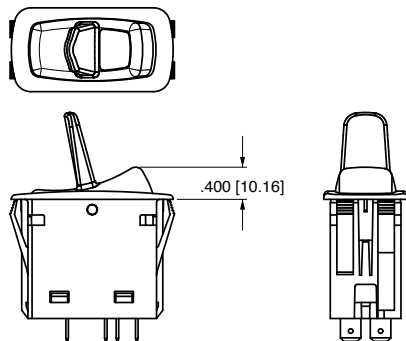
**L-SERIES**  
SHOWN WITH LASER ETCHED  
ACTUATOR



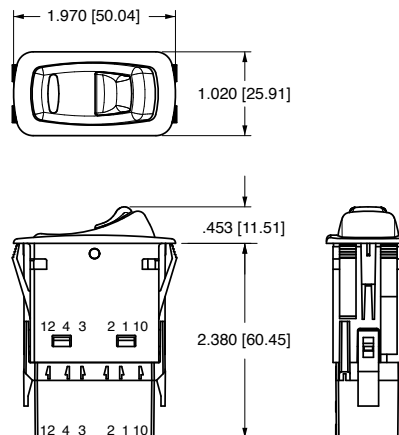
**L-SERIES**  
SHOWN WITH ROCKER GUARD



**L-SERIES**  
SHOWN WITH LARGE LENS  
AND PADDLE ACTUATOR



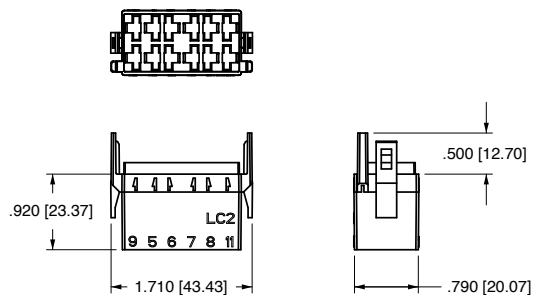
**L-SERIES**  
SHOWN WITH BAR LENS, LOCK  
AND CONNECTOR



## Connector

**L-SERIES**  
CONNECTOR

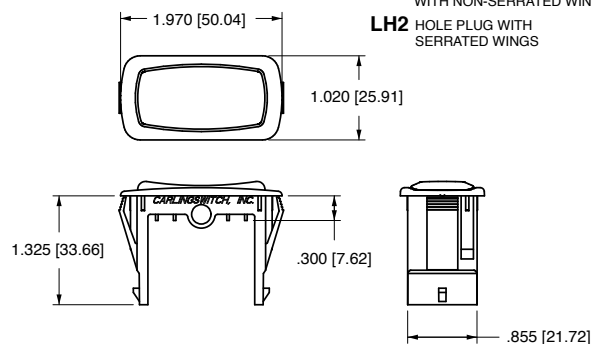
- LC1-01** BLACK .250 TAB CONNECTOR (PACKARD 630 SERIES)
- LC2-01** BLACK .187 TAB CONNECTOR (PACKARD 480 SERIES)
- LC3-01** BLACK .250 TAB CONNECTOR (AMP ONLY)



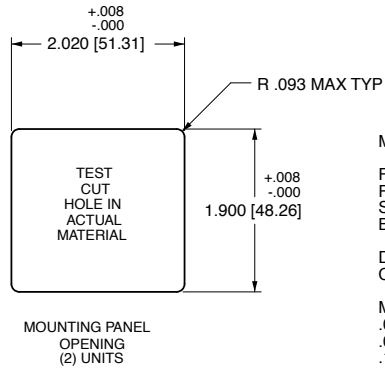
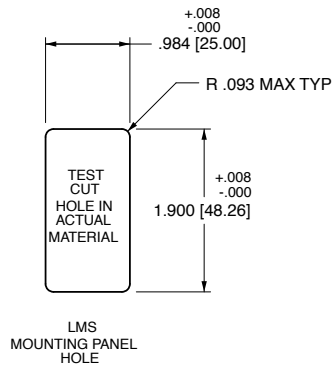
## Hole Plug

**L-SERIES**  
HOLE PLUG

- LH1** REMOVABLE HOLE PLUG  
WITH NON-SERRATED WINGS
- LH2** HOLE PLUG WITH  
SERRATED WINGS



## Dimensional Specifications: in. [mm]



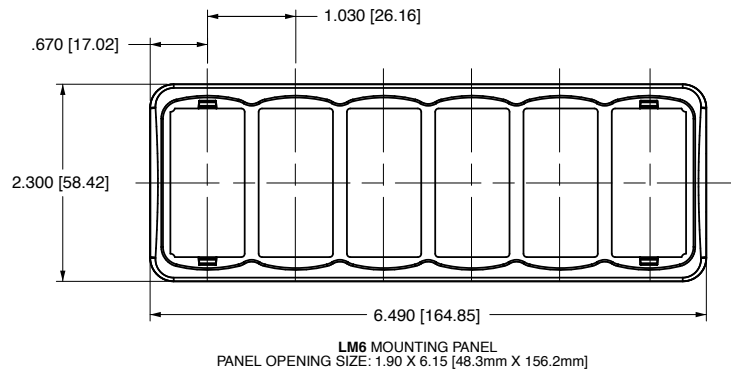
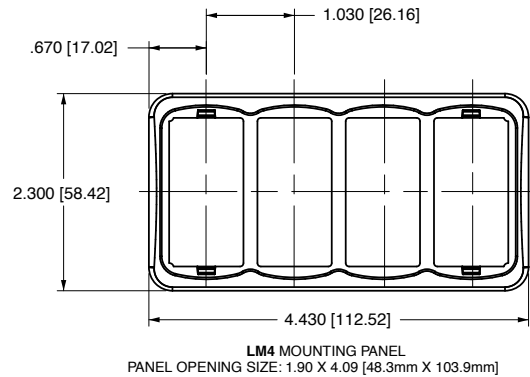
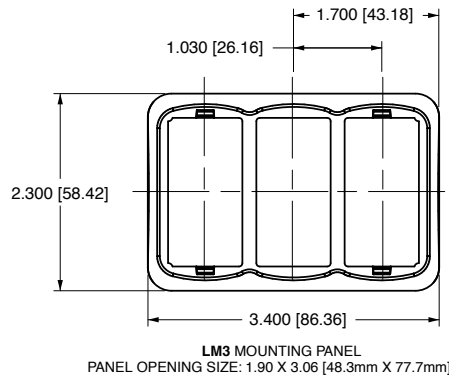
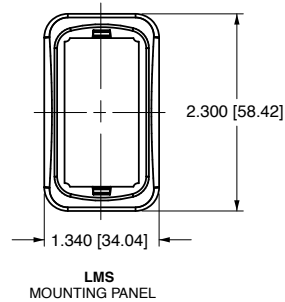
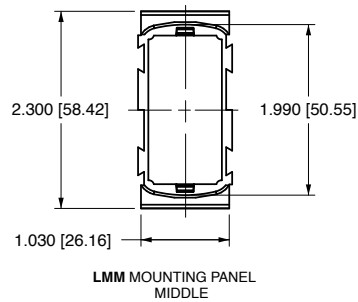
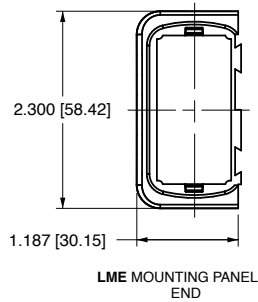
### MOUNTING PANEL

FOR ADDITIONAL UNITS, ADD 1.03 [26.2] PER UNIT.  
FOR MORE THAN 2 L-SERIES SWITCHES, ADD MIDDLE  
SECTION. AVAILABLE IN PANEL THICKNESSES LISTED  
BELOW. CONSULT FACTORY

DIMENSIONS: LME 2.02 [51.3mm] PLUS NUMBER OF  
CENTER BEZELS (LMM) X 1.034 [26.26mm]

### MOUNTING PANEL THICKNESS

.062 [1.57]  
.093 [2.36]  
.125 [3.17]  
.156 [3.96]



## Circuit Diagrams:

| CIRCUIT CODE | CIRCUIT DIAGRAM | CIRCUIT CODE | CIRCUIT DIAGRAM | CIRCUIT CODE | CIRCUIT DIAGRAM |
|--------------|-----------------|--------------|-----------------|--------------|-----------------|
| 11           |                 | 22           |                 | 51           |                 |
| 12           |                 | 23           |                 | 52           |                 |
| 13           |                 | 24           |                 | 53           |                 |
| 14           |                 | 25           |                 | 54           |                 |
| 15           |                 | 26           |                 | 55           |                 |
| 16           |                 | 27           |                 | 56           |                 |
| 17           |                 | 28           |                 | 57           |                 |
| 18           |                 | 30           |                 | 58           |                 |
| 21           |                 | 31           |                 | 61           |                 |

## Circuit Diagrams:

| CIRCUIT CODE | CIRCUIT DIAGRAM | CIRCUIT CODE | CIRCUIT DIAGRAM |
|--------------|-----------------|--------------|-----------------|
| 62           |                 | 71           |                 |
| 63           |                 | 72           |                 |
| 64           |                 | 73           |                 |
| 65           |                 | 80           |                 |
| 66           |                 | 81           |                 |
| 67           |                 | 82           |                 |
| 68           |                 | A2           |                 |
| 69           |                 | A3           |                 |
| 70           |                 |              |                 |

## Lamp Circuit Diagrams:

| LAMP CIRCUIT CODE | CIRCUIT DIAGRAM |
|-------------------|-----------------|
| <b>A</b>          |                 |
| <b>B</b>          |                 |
| <b>C</b>          |                 |
| <b>D</b>          |                 |
| <b>E</b>          |                 |
| <b>F</b>          |                 |
| <b>G</b>          |                 |
| <b>H</b>          |                 |

| LAMP CIRCUIT CODE | CIRCUIT DIAGRAM |
|-------------------|-----------------|
| <b>J</b>          |                 |
| <b>1</b>          |                 |
| <b>2</b>          |                 |
| <b>K</b>          |                 |

| LEGEND |                                       |
|--------|---------------------------------------|
| SYMBOL | DEFINITION                            |
|        | TERMINAL LOCATION                     |
|        | LAMP LOCATION                         |
|        | MAINTAINED CIRCUIT                    |
|        | MOMENTARY CIRCUIT                     |
|        | INTERNAL CONNECTION (JUMPER TERMINAL) |
|        | 2 POSITION CONNECTION                 |
|        | 2 POSITION                            |
|        | 3 POSITION                            |

## Authorized Sales Representatives and Distributors

Click on a region of the map below to find your local representatives and distributors or visit [www.carlingtech.com/findarep](http://www.carlingtech.com/findarep).



## About Carling

Founded in 1920, Carling Technologies is a leading manufacturer of electrical and electronic switches and assemblies, circuit breakers, electronic controls, power distribution units, and multiplexed power distribution systems. With four ISO registered manufacturing facilities and technical sales offices worldwide, Carling Technologies Sales, Service and Engineering teams do much more than manufacture electrical components, they engineer powerful solutions! To learn more about Carling please visit [www.carlingtech.com/company-profile](http://www.carlingtech.com/company-profile).

To view all of Carling's environmental, quality, health & safety certifications please visit [www.carlingtech.com/environmental-certifications](http://www.carlingtech.com/environmental-certifications)

## **Worldwide Headquarters**

Carling Technologies, Inc.  
60 Johnson Avenue, Plainville, CT 06062  
**Phone:** 860.793.9281 **Fax:** 860.793.9231  
**Email:** sales@carlingtech.com

**Northern Region Sales Office:** nrsm@carlingtech.com  
**Southeast Region Sales Office:** sersm@carlingtech.com  
**Midwest Region Sales Office:** mrsm@carlingtech.com  
**West Region Sales Office:** wrsm@carlingtech.com  
**Latin America Sales Office:** larsm@carlingtech.com

## **Asia-Pacific Headquarters**

Carling Technologies, Asia-Pacific Ltd.,  
Suite 1607, 16/F Tower 2, The Gateway,  
Harbour City, 25 Canton Road,  
Tsimshatsui, Kowloon, Hong Kong  
**Phone:** Int + 852-2737-2277 **Fax:** Int + 852-2736-9332  
**Email:** sales@carlingtech.com.hk

**Shenzhen, China:** shenzhen@carlingtech.com  
**Shanghai, China:** shanghai@carlingtech.com  
**Pune, India:** india@carlingtech.com  
**Kaohsiung, Taiwan:** taiwan@carlingtech.com  
**Yokohama, Japan:** japan@carlingtech.com

## **Europe | Middle East | Africa Headquarters**

Carling Technologies LTD  
4 Airport Business Park, Exeter Airport,  
Clyst Honiton, Exeter, Devon, EX5 2UL, UK  
**Phone:** Int + 44 1392.364422 **Fax:** Int + 44 1392.364477  
**Email:** ltd.sales@carlingtech.com

**Germany:** gmbh@carlingtech.com  
**France:** sas@carlingtech.com



**Carling Technologies®**

Innovative Designs. Powerful Solutions.