Making the right connections has never been easier — with the L-Series Rocker Switch from Carling Technologies. Not only does this innovative switch offer total design flexibility, it has set new standards for both performance and reliability. It’s IP67 certified, and able to withstand temperatures from -40°C to +85°C. Features include countless switch and lamp circuit combinations, LED illuminated lenses or laser etched rockers, as well as hundreds of legend choices and several accessories.

**Eliminates need for retooling**
Neatly proportioned, our L-Series fits into industry standard mounting holes of 1.734” x .867” and 44.0mm x 22.0mm.

**Withstands extreme temperatures**
Roller pin mechanism eliminates need for lubricants, so it can withstand from -40°C to +85°C.

**Integrates easily into your system**
You can choose from a variety of termination options, including .250 TAB QC & .187 TAB QC.

**Ensures greater shock protection**
Welded lamp connection and one-piece internal, jumperless terminal withstand extreme shock and vibration.

**Maximizes your design flexibility**
Twelve terminals offer you an extensive range of switch and lamp circuit options, including LED or incandescent illumination.
### Electrical

<table>
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<th>Contact Rating</th>
<th>.4VA @ 24VDC (MAX) resistive</th>
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<tr>
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<td>15 amps, 125 VAC</td>
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<tr>
<td></td>
<td>10 amps, 250 VAC</td>
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<tr>
<td></td>
<td>20 amps, 4-14 VDC</td>
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<tr>
<td></td>
<td>15 amps, 15-28 VDC</td>
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</tbody>
</table>

| Dielectric Strength | 1250 Volts RMS between pole to pole |
|                    | 3750 Volts RMS between live parts and accessible surfaces |

| Insulation Resistance | 50 Megohms |
| Initial Contact Resistance | 10 milliohms max. @ 4 VDC |

| Life | 100,000 cycles maintained, 50,000 cycles momentary at rated voltage and current |

| Contacts | 90/10 silver-nickel, silver tin-oxide, gold |
| Terminals | Brass or copper/silver plate |

| 3/16” (4.76mm) & 1/4” (6.3mm) Quick Connect terminations standard. |

### Mechanical

| Endurance | 250,000 cycles minimum |

### Physical

| Lighted | Incandescent - rated 10,000 hours |
| LED | rated 100,000 hours 1/2 life (LED is internally ballasted for voltages to 24 VDC) |

| Seals | Rocker, base & bracket are sealed. |
| Base | Polyester blend rated to 85°C with a flammability rating of 94VO |


| Lens | Polycarbonate rated at 100°C. Front snap-in. |
| Connector | Nylon 66 rated at 85°C. Polarized. |

### Actuator Travel (Angular Displacement)

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

### Environmental

| Environmental | IP67, representing an index of protection as applied to electrical equipment in accordance with IEC 529, BS 5490, DIN 400 50 & NFC 20 010. |

| Corrosion Resistance | 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  |
|            | 24-50 Hz 0.40 DA |
|            | 50-2000 ±10 G’s peak |

| Vibration Criteria | Results Horizontal Axis 3-5 G’s max. Random |
|                   | 24 Hz 0.06 PSD-Gsq/Hz |
|                   | 60 Hz 0.50 |
|                   | 100 Hz 0.50 |
|                   | 200 Hz 0.025 |
|                   | 2000 Hz 0.025 |

| 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
Lamp wired to N - 3 A Illumination

3. Termination 3 only available with rating codes 1, B, and E.
4. Termination 1 not available with rating code 4.
5. Not available with circuits 11-18, 51-57 and 69.

3 TERMINATION2,3,4

Lamp A3 & A4 may be used in circuits 11-18, 51-57 & 69. A1 & A2 are not available with rating code 1.

5 ILLUMINATION

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

6,7 LAMP (same coding for both selections)

6. Selection 6 above terminals 10 & 9; Selection 7 above terminals 12 & 11
No lamp 0
Incandescent 4 3V 5 6V 8 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'

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

9 ACTUATOR STYLE AND COLOR'

9. Rocker A B C D Paddle J N K M

10 & 11 LENS STYLE AND COLOR

10. Lens color for LEDs must be clear, white, or match color of LED.
Green or blue lenses are not recommended with Neon lamps.

12 LASER ETCH, LENS OR BODY LEGEND

12. No lamp: 0
Laser Etch background color
Black White Gray Red
Laser Etched

13 LEGEND ORIENTATION

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

14 ACTUATOR LENS LEGEND

14. No legend this location / no actuator
For legend options & codes, see page 69 of this catalog.

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 when used in combination with termination codes 1 and 3 are not available with rating codes C, D, G or H.
3. Termination 3 only available with rating codes 1, B, and E.
4. Termination 1 not available with rating code 4.
5. Not available with circuits 11-18, 51-57 and 69.

L-Series Sealed Rocker Switches
L-Series Sealed Locking Rocker Switches

1 SERIES

L

2 CIRCUIT *
Terminal Orientation

( ) - momentary
SP - single pole - uses terminals 1, 2 & 4.
DP - double pole uses terminals 5, 6 & 8.
Terminals 9, 10, 11 & 12 for lamp circuit only.

Position: 1 2 3 (lock location)
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 (2,4&5),(1,6&8) OFF, OFF
31 (1,2&5 2,3&7 2,4&8)

PROGRESSIVE CIRCUITS
51 3&4 2&3 1&2
52 3&4 2&3 1&2
53 (3&4) 2&3 1&2
54 (3&4) 2&3 1&2
55 (3&4) 2&3 1&2
56 (3&4) 2&3 1&2
57 (3&4) 2&3 1&2
58 2&4 2&3 1&2
61 3&4,7&8 2&3,6&7 1&2
62 3&4,7&8 2&3,6&7 1&2
63 (3&4),(7&8) 2&3,6&7 1&2
64 (3&4),(7&8) 2&3,6&7 1&2
65 (3&4),(7&8) 2&3,6&7 1&2
66 (3&4),(7&8) 2&3,6&7 1&2
67 3&4,7&8 2&3,6&7 1&2
68 2&4,7&8 2&4,OFF 1&2
69 2&4,7&8 2&4,OFF 1&2
70 (2&4),(7&8) 2&4,OFF 1&2
71 (2&4),(7&8) 2&4,OFF 1&2
72 2&4,7&8 2&4,OFF 1&2
73 (2&4),(7&8) 2&4,OFF 1&2
74 (2&4),(7&8) 2&4,OFF 1&2
75 (2&4),(7&8) 2&4,OFF 1&2
76 (2&4),(7&8) 2&4,OFF 1&2
77 (2&4),(7&8) 2&4,OFF 1&2
78 (2&4),(7&8) 2&4,OFF 1&2
79 (2&4),(7&8) 2&4,OFF 1&2
80 2&4,7&8 2&4,OFF 1&2

3 RATING *
1 .4VA @ 28VDC Resistive D 20A 12V
2 10A 250VAC 1/2 HP, E 15A 12V
3 15A 12V/120V, No Listings G 20A 6V
4 B 15A 24V H 20A 3V
5 C 20A 18V

4 TERMINATION *
1 .250 (6.4mm) TAB (QC) 3 .187 (4.7mm) TAB (QC)

5 ILLUMINATION *
Lamp located above terminals 11 & 12, position 1 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.

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 1 not available with rating 4.
5 Termination 3 only available with ratings 1, B and E.
6 Circuits 30, 31, 58 and 69, when used in combination with termination codes 1 is not available with rating codes 4, C, D, G or H.
7 Up, Up & Down, and Center lock options will be available 1Q2004.

7 LAMP
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 R 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
Black J

9 ACTUATOR STYLE AND COLOR
Black Red
Locking Rocker P R

10 LENS STYLE AND COLOR
Lens color for LEDs must be clear, white, or match color of LED.
Green or blue lenses are not recommended with Neon lamps.
0 - No Actuator Z - No Lens
Clear White Amber Green Red Blue Large Transparent
1 - B G M T Large Transparent
2 - D J P V Bar Transparent
3 - 9 E K R W Bar Transparent

11 LOCK FUNCTION AND COLOR
Locking Position
Up Down & Down Center 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 ETCH, LENS OR BODY LEGEND
00 No legend this location / no actuator
For legend options & codes, see page 69 of this catalog.

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

www.carlingtech.com
L-Series Dimensional Specifications & Accessories

**Connector**

**L SERIES**

- **SHOWN WITH LARGE LENS AND PADDLE ACTUATOR**
- Dimensions:
  - 1.970 [50.04]
  - 1.020 [25.91]
  - 1.450 [36.83]
  - .400 [10.16]

**LC1-01**
- BLACK .250 TAB CONNECTOR

**LC1-02**
- BLACK .187 TAB CONNECTOR

**Hole Plug**

**L SERIES**

- **SHOWN WITH ROCKER GUARD**
- Dimensions:
  - 1.970 [50.04]
  - 1.020 [25.91]
  - .435 [10.16]
  - .453 [11.51]

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

**LH2**
- HOLE PLUG WITH SERRATED WINGS

**Dimensional Specifications**

- **Connector**
  - 1.970 [50.04]
  - 1.020 [25.91]
  - .400 [10.16]

- **Hole Plug**
  - 1.970 [50.04]
  - 1.020 [25.91]
  - .435 [10.16]
  - .453 [11.51]
L-Series Accessories

Mounting Panel
Dimensional Specifications: in. [mm]

LMS MOUNTING PANEL

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]

LM6 MOUNTING PANEL
PANEL OPENING SIZE: 1.90 X 6.15 [48.3mm X 156.2mm]
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**LEGEND**

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- P3
- P2
- P1

- 2 POSITION
- 3 POSITION
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**NOTE**
1 Negative lens not available on L or LD-Series.
Additional Standard Markings available. Consult factory.