Carling Technologies is pleased to introduce the latest addition to the L-Series family of control products, the LD-Series Electronic Dimmer Control. The LD-Series, with its fully programmable electronic circuitry, represents a vast improvement over other available products now on the market. A variety of options, along with superior performance, functionality, and aesthetics assure compliance with most any customer requirement. In addition, our integrated design can provide savings by reducing the need for insulated wires and connectors.

Design Features include:

**Fully Programmable Circuitry**
- to determine min and max illumination levels
- to determine the number of steps from total dim to full bright
- to adjust illumination levels

**Momentary Ratchet Design**
- allows programming of illumination intensity variation speed
- provides intuitive operator recognition
- avoids inadvertent actuation

**Robust Envelope Design**
- protects critical internal components
- minimizes electrical connections and the need for extra wires

**Adjustable Safety Features**
- “Watch-dog timer” prevents device lock-up
- memory device recalls dimmer position after power interrupts

**Performance**
- reliability in a variety of environmental conditions
- exceeds SAE J1113 and SAE 1445 EMI standards
- Life exceeds 100,000 actuations

The NEW LD-Series represents a dynamic breakthrough in dashboard technology. Programmable circuitry, superior design, and unparalleled performance that will afford seamless integration into most any customer interior.

For additional information on the new Electronic Dimmer Control, please contact a Carling Technologies Technical Customer Service Rep:

- Phone (860) 793-9281
- Fax (860) 793-9231
- email sales@carlingtech.com
- internet www.carlingtech.com
- mail Carling Technologies, Inc.
  60 Johnson Avenue
  Plainville, CT 06062-1177
Electronic Dimmer Control Ordering Scheme

**1 SERIES**
LD Electronic Dimmer Control

**2 RATING**
1 4A, 12 volt
2 7A, 12 volt
3 10A, 12 volt
A 2A, 24 volt
C 5A, 24 volt

**3 DIMMING RATE**
1 30 - 100% 8 positions
5 10 - 100% 10 positions
A 0 - 100% 11 positions

**4 TERMINATION**
1 .250 TABS (6.4 mm)

**5 & 6 ILLUMINATION**
S No lamp
C Red 12 Volt LED
D Red 24 Volt LED
N Amber 12 Volt LED
P Amber 24 Volt LED
H Green 12 Volt LED
J Green 24 Volt LED

**7 BRACKET COLOR**
1 Black
2 White
3 Gray

**8 ACTUATOR STYLE / COLOR**
3 Laser Etched Rocker
4 Laser Etched Paddle
A Rocker/Black
B Rocker/White
C Rocker/Gray
D Rocker/Red
J Paddle/Black
K Paddle/Gray
M Paddle/Red
N Paddle/White

**9 & 10 LENS COLOR**
Z NO LENS

**CLEAR**

**WHITE**

**AMBER**

**GREEN**

**RED**

**BLUE**

**LENS STYLE**

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<td>C</td>
<td>H</td>
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<td>J</td>
<td>P</td>
<td>V</td>
<td>n/a</td>
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**11 LEGEND #1**
00 No legend
FC DIM
FE BRIGHT

See catalog for additional printed and laser etched images.

**12 LEGEND ORIENTATION**
0 No legend
Available printed or laser etched.
See catalog for images.

**13 LEGEND #2**
00 No legend
FC DIM
FE BRIGHT

See catalog for additional printed and laser etched images.

NOTES:
Shading indicates available options. Contact factory for availability of other listed options.
Consult factory to verify horsepower rating for your particular circuit choice.
1 Custom colors are available. Consult factory.
Electronic Dimmer Control General Specifications

### Electrical

- **Contact Rating**: 4 amps, 12 VDC, 7 amps, 12 VDC, 10 amps, 12 VDC, 2 amps, 24 VDC, 3.5 amps, 24 VDC, 5 amps, 24 VDC
- **Rated Life**: 100,000 hours
- **LED**: Internally dimmed, internally rated 1/2 life
- **Base**: PBT Polyester with V-0 flammability rating
- **Actuator**: Polycarbonate or Nylon 6/6 glass filled
- **Bracket**: PBT Polyester with V-0 flammability rating
- **Connector**: Nylon 6/6 toughened
- **Function**: Incremental or continuous dimming
- **Operation**: Momentary
- **Weight**: 52 grams

### Environmental

- **Operating Temperature**: -40° C to +85° C
- **Vibration**: Resonance Search
  - Individual resonance searches were conducted with vibration applied along each of the three mutually perpendicular axes.
  - 24-50 Hz ±0.40 DA
  - 50-2000 ±10 G's peak
- **Random Vibration**: The random vibration endurance test conditions were sequentially conducted in each of the three mutually perpendicular axes, 1/hr/axis. 9.36 Grms
  - Frequency (Hz) PSD (G²/Hz)
    - 24 Hz 0.06
    - 60 Hz 0.50
    - 100 Hz 0.50
    - 1000 Hz 0.025
    - 2000 Hz 0.025
- **Shock**: Per Mil-Std 202F, Method 213B, Test Condition K @ 30G's. Tested with 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, 96 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 106E, Test Criteria - pre and post test contact resistance.
- **Dust**: Per Mil-Std 810C, Method 510.2 Air velocity 300± 200 ft/min, test duration 16 hr.
- **Temperature Cycle**: Powered at 12 VDC and then placed in a chamber at 25°C. The temperature was then lowered to -40°C at a rate of 2°C/min. and stayed at this temperature for 4 hours at 85°C. The temperature was lowered to 25°C and maintained for 8 hrs. This cycle was repeated 5 times. All units functioned properly both before and after test.
- **Endurance**: 100,000 cycles minimum
- **Actuation Force**: 300 grams ± 50 grams

### Mechanical

- **Endurance**: 100,000 cycles minimum
- **Actuation Force**: 300 grams ± 50 grams

### Physical Characteristics

- **Lighted**: LED - internally dimmed, rated 100,000 hours 1/2 life
- **Base**: PBT Polyester with V-0 flammability rating
- **Actuator**: Polycarbonate or Nylon 6/6 glass filled
- **Bracket**: PBT Polyester with V-0 flammability rating
- **Connector**: Nylon 6/6 toughened
- **Function**: Incremental or continuous dimming
- **Operation**: Momentary
- **Weight**: 52 grams

### EMI/EMC

- **Per SAE J 1113 & SAE J 1455
- **Reverse Polarity**: 24VDC for 5 minutes

### Dielectric Strength

- A potential of 1000V @ 60Hz was applied to each unit for one minute. The voltage was increased from 0 to 1000V at a rate of 500V per second and then reduced from 1000V to 0 at a rate of 500V per second. No noticeable signs of flashover, arcing or perforation were evident. All units operated properly both before and after test.

### Warranty Policy

Carling Technologies, Inc. (Seller) warrants that goods sold hereunder shall be free from defects in material and workmanship for one year from date of shipment.

In the event of such defects, the Seller’s only obligation shall be the replacement or the cost of the defective goods, furnished, at its option, but no labor costs, which are or may be required in connection with the replacement or reinstallation of the goods. This warranty is the Seller’s sole obligation and excludes all other remedies or warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, whether or not purpose or specifications are described herein. This Warranty expressly excludes any and all incidental, special and/or consequential damages of any nature.

Seller further disclaims any responsibility for injury to persons or damage to or loss of property or value caused by any product which has been subjected to misuse, negligence, or accident; or misapplied, or modified or repaired by a person or persons not authorized by the Seller or which have been improperly installed.

Carling Technologies, Inc. • 60 Johnson Avenue • Plainville, CT 06062-1177
(860) 793-9281 • fax: (860) 793-9231 • email: sales@carlingtech.com • www.carlingtech.com

NOTES:
For more detailed specifications, consult factory.
Electronic Dimmer Control Dimensional Specifications

Panel Thickness Range
Acceptable Panel Thickness
.030 to .156 (.76mm to 4.76mm)
Recommended:
.030, .062, .093, .125, and .156

Electronic Dimmer Control Switch Connector Dimensional Specifications

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<th>WIRE GAGE</th>
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NOTE: CONSULT PACKARD ON ACTUAL PART NUMBER AND AVAILABILITY