

## LD-Series Electronic Dimmer Control



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 dash panel. 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.

### Dielectric Strength

1000V - live to dead metal parts

### Electrical Life

50,000 cycles

### Mechanical Life

100,000 cycles

### Operating Temperature

-40°C to +85°C

### Electrical

|                     |                                                                                                                                                                                                                                                                                                                                          |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact Rating      | 4 amps, 14 VDC<br>7 amps, 14 VDC<br>10 amps, 14 VDC<br>2 amps, 28 VDC<br>3.5 amps, 28 VDC<br>5 amps, 28 VDC                                                                                                                                                                                                                              |
| Contacts            | Solid State                                                                                                                                                                                                                                                                                                                              |
| Terminals           | .250 (6.3mm) Quick Connect terminations standard.                                                                                                                                                                                                                                                                                        |
| 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. |

### Mechanical

|                 |                          |
|-----------------|--------------------------|
| Endurance       | 100,000 cycles minimum   |
| Actuation Force | 300 grams $\pm$ 50 grams |

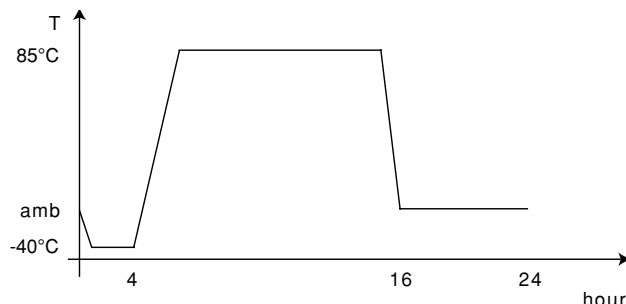
### Physical Characteristics

|           |                                                       |
|-----------|-------------------------------------------------------|
| 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                                              |

NOTES:  
For more detailed specifications, consult factory.

### Environmental

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature | -40° C to + 85° C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Vibration             | Resonance Search<br>Individual resonance searches were conducted with vibration applied along each of the three mutually perpendicular axes. 24-50 Hz 0.40 DA; 50-2000 $\pm$ 10 G's peak<br>Random Vibration<br>The random vibration endurance test conditions were sequentially conducted in each of the three mutually perpendicular axes, 1hr/axis. 9.36 Grms<br>Frequency (Hz) PSD (G <sup>2</sup> /Hz)<br>24 Hz 0.06<br>60 Hz 0.50<br>100 Hz 0.50<br>1000 Hz 0.025<br>2000 Hz 0.025<br>During this test, all units were operated at a load current of 2A with 12.5 VDC. |
| Shock                 | Per Mil-Std 202F, Method 213B, Test Condition K @ 30G's. Tested with connector. Test criteria - No loss of circuit during test, pre, & 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 Cond. A, -55°C to 85°C. Test criteria - pre & 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 $\pm$ 200 ft/min, test duration 16 hr.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Temperature Cycle     | Temperature Cycle<br>.According to SAE J1455, Sec. 4.1.3.1 (See Figure below)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



|           |          |                |               |                |                |                 |          |                        |              |               |               |          |                       |               |
|-----------|----------|----------------|---------------|----------------|----------------|-----------------|----------|------------------------|--------------|---------------|---------------|----------|-----------------------|---------------|
| <b>LD</b> | <b>3</b> | <b>5</b>       | <b>1</b>      | <b>C</b>       | <b>C</b>       | <b>1</b>        | <b>-</b> | <b>3</b>               | <b>A</b>     | <b>A</b>      | <b>FE</b>     | <b>-</b> | <b>1</b>              | <b>FC</b>     |
| 1 Series  | 2 Rating | 3 Dimming Rate | 4 Termination | 5 Illumination | 6 Illumination | 7 Bracket Color |          | 8 Actuator Style/Color | 9 Lens Color | 10 Lens Color | 11 Legend One |          | 12 Legend Orientation | 13 Legend Two |

**1 SERIES**
**LD** Electronic Dimmer Control

**2 RATING**

|   |             |   |              |   |             |
|---|-------------|---|--------------|---|-------------|
| 1 | 4A, 14 volt | 3 | 10A, 14 volt | C | 5A, 28 volt |
| 2 | 7A, 14volt  | A | 2A, 28 volt  |   |             |

**3 DIMMING RATE**

|   |                        |   |                       |
|---|------------------------|---|-----------------------|
| 1 | 30 - 100% 8 positions  | A | 0 - 100% 11 positions |
| 5 | 10 - 100% 10 positions |   |                       |

**4 TERMINATION**

|   |                    |
|---|--------------------|
| 1 | .250 TABS (6.4 mm) |
|---|--------------------|

**5 & 6 ILLUMINATION**

|         |   |       |       |  |
|---------|---|-------|-------|--|
| No lamp | S |       |       |  |
| Red     |   | Amber | Green |  |
| 12V LED | C | N     | H     |  |
| 24V LED | D | P     | J     |  |

**7 BRACKET COLOR¹**

|   |       |   |       |   |      |
|---|-------|---|-------|---|------|
| 1 | Black | 2 | White | 3 | Gray |
|---|-------|---|-------|---|------|

**8 ACTUATOR STYLE / COLOR¹**

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

**9 & 10 LENS COLOR**

|       |         |       |       |     |      |             |
|-------|---------|-------|-------|-----|------|-------------|
| Z     | NO LENS |       |       |     |      | LENS STYLE  |
| CLEAR | WHITE   | AMBER | GREEN | RED | BLUE | Large       |
| 1     | -       | B     | G     | M   | T    | Transparent |
| -     | 7       | C     | H     | N   | U    | Large       |
| 3     | -       | D     | J     | P   | V    | Translucent |
| -     | 9       | E     | K     | R   | W    | Transparent |
| 5     | A       | -     | -     | -   | -    | Bar         |
|       |         |       |       |     |      | Translucent |
|       |         |       |       |     |      | Laser Etch  |

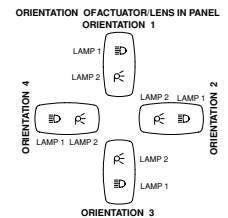
**11 LEGEND #1**

|    |           |    |     |    |        |
|----|-----------|----|-----|----|--------|
| 00 | No legend | FC | DIM | FE | BRIGHT |
|----|-----------|----|-----|----|--------|

For additional legend options, see page 69 of this catalog.

**12 LEGEND ORIENTATION**

|   |                              |
|---|------------------------------|
| 0 | No legend                    |
| 1 | vertical (lamp 1 on top)     |
| 2 | horizontal (lamp 1 on right) |
| 3 | vertical (lamp 1 on bottom)  |

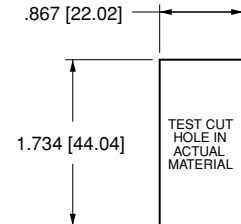
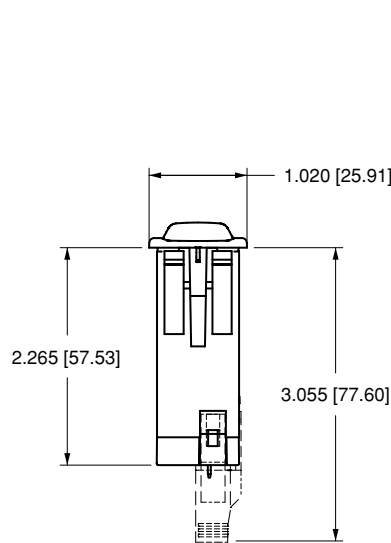
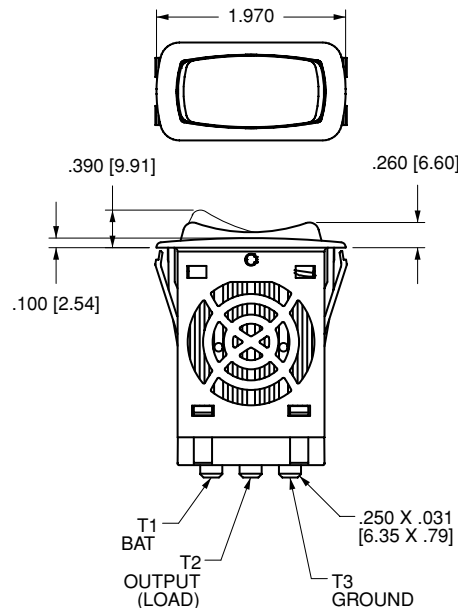

**13 LEGEND #2**

|    |           |    |     |    |        |
|----|-----------|----|-----|----|--------|
| 00 | No legend | FC | DIM | FE | BRIGHT |
|----|-----------|----|-----|----|--------|

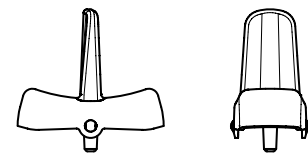
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**NOTES**

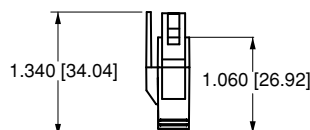
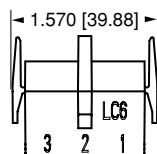
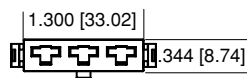
1 Custom colors are available. Consult factory.


**MOUNTING HOLE**
**Panel Thickness Range**

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



PADDLE STYLE ACTUATOR


**Q.C. SELECTION GUIDE**

| COMPANY SERIES                                 | PACKARD PART NO. | WIRE GAGE       |                   |
|------------------------------------------------|------------------|-----------------|-------------------|
|                                                |                  | AWG             | MM2               |
| PACKARD METRI-PACK 630 SERIES TIN PLATED BRASS | 12084590         | 12              | 3.0               |
|                                                | 12052224         | 12              | 3.0               |
|                                                | 12015870         | 16-14           | 2.0-1.0           |
|                                                | 12015869         | 20-18           | 1.0-.80           |
|                                                | 12020035         | 22-18 (2 REQ'D) | .80-.50 (2 REQ'D) |
|                                                | 12052222         | 20-22           | .50-.35           |