

LD-Series

Electronic Dimmer Control

The LD-Series represents a dynamic breakthrough in dashboard technology, with its programmable circuitry, superior design, and unparalleled performance that affords seamless integration into most any dash panel. A variety of options, along with superior performance, functionality, and aesthetics assure compliance with the most stringent customer requirements. Key features include: robust design package with all components encased in switch housing, eliminating wire chafing, providing cost-savings as well; minimized electrical connections; IP67 sealing which prevents PCB degradation and eliminates short circuit potential. Superior heat dissipation is achieved with a heat sink mass which is over 50% larger than competitive products. Fully programmable circuitry lets the designer decide illumination levels and detent positions. EMC eliminates electrical "noise" and provides interference-free radio signals. Ease of assembly is accommodated with polarized integral connectors and an industry standard mounting hole.



Carling Technologies®

Innovative Designs. Powerful Solutions.

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Electrical

Contact Rating	4 amps, 14VDC 7 amps, 14VDC 10 amps, 14VDC 2 amps, 28VDC 3.5 amps, 28VDC 5 amps, 28VDC
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.
Electrical Endurance	50,000 cycles minimum

Mechanical

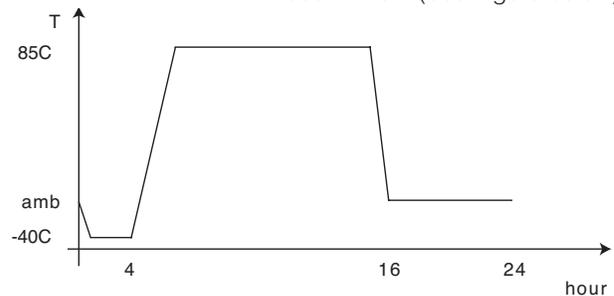
Endurance	100,000 cycles minimum
Actuation Force	300 grams ± 50 grams

Physical Characteristics

Lighted	LED - internally dimmed, rated 100,000 hours 1/2 life
Base flammability rating	PBT Polyester with VO
Actuator filled	Polycarbonate or Nylon 6/6 glass
Bracket	PBT Polyester with VO
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, 1hr/axis. 9.36 Grms Frequency (Hz) PSD (G ² /Hz) 24 Hz 0.06 60 Hz 0.50 100 Hz 0.50 1000 Hz 0.025 2000 Hz 0.025 During this test, all units were operated at a load current of 2A with 12.5VDC.
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± 200 ft/min, test duration 16 hr.
Temperature Cycle	According to SAE J1455, Sec. 4.1.3.1 (See Figure below)



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



1 SERIES
LD Electronic Dimmer Control

2 RATING

1	4A, 12 volts	A	2A, 24 volts
2	7A, 12 volts	B	3.5A, 24 volts
3	10A, 12 volts	C	5A, 24 volts

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)
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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
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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						
CLEAR	WHITE	AMBER	GREEN	RED	BLUE	LENS STYLE	
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 Etch	

11 LEGEND #1

00	No legend	FC	DIM	FE	BRIGHT
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For legend options, visit us at carlingtech.com

12 LEGEND ORIENTATION

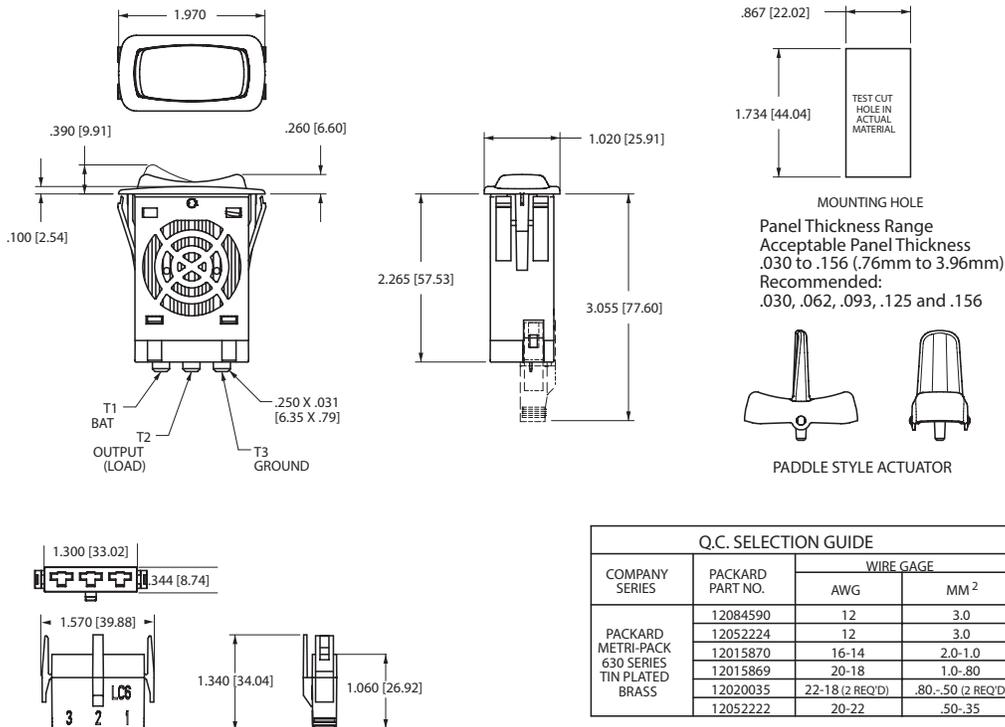
0 No legend
 1 vertical (lamp 1 on top)
 2 horizontal (lamp 1 on right)
 3 vertical (lamp 1 on bottom)
 4 horizontal (lamp 1 on left)

13 LEGEND #2

00	No legend	FC	DIM	FE	BRIGHT
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Notes:
 1 Custom colors are available. Consult factory.



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