

# Specifications—LM Series

## DC Output

Voltage range shown in tables.

### REGULATED VOLTAGE

regulation, line	0.05% plus 4 mV for line variations from 105-132 VAC, 0.01% plus 1.0 mV for line variations from 105-132 VAC. ("Y" option)
regulation, load	0.03% plus 3 mV for load variations from 0 to full load. 0.02% plus 2 mV for load variations from 0 to full load. ("Y" option)
remote programming resistance	200 ohms/volt, nominal
remote programming voltage	volt per volt
ripple and noise	1 mV RMS, 3 mV pk-pk with either pos. or neg. terminal grounded. 0.5 mV RMS, 1.5 mV pk-pk with 60 Hz input. ("Y" option)
temperature coefficient	0.03%/°C; 0.01%/°C ("Y" option)

## AC Input

line	105-132 VAC; 45-440 Hz. 40° C rating not applicable for 50 Hz operation; for 400 Hz operation consult factory. 187-242 VAC, see AC input option.
power*	LM-B Models, 80 watts; LM-C Models, 140 watts; LM-CC Models, 225 watts; LM-D Models, 380 watts; LM-E Models, 520 watts; LM-F Models, 900 watts; LM-G Models, 1300 watts.

\*With output loaded to 40° C rating, input 132 VAC and 55-65 Hz.

## Ambient Operating Temperature Range

Continuous duty from -20° C to +71° C ambient with corresponding load current ratings for all modes of operation and mounting positions

## Storage Temperature Range

-55° C to +85° C.

## Overload protection

### THERMAL

Thermostat; automatic reset when over-temperature condition is eliminated.

### ELECTRICAL

External overload protection: fixed, automatic electronic current limiting circuit limits the output current upon external overloads, including short circuit, thereby providing protection for load as well as power supply.

### Overshoot

No overshoot on turn-on, turn-off, or power failure.

## Input and Output Connections

Heavy duty terminal block on rear of chassis; output terminals on LM-F and LM-G are two heavy duty studs.

## Controls

### DC Output Control

Simple screwdriver voltage adjustment over entire voltage range.

### Remote Sensing

Provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

## Mounting

Three surfaces, each with tapped mounting holes, can be utilized for mounting LM-B, C, CC, and D Models. One mounting surface for E Models, and only in the horizontal plane. Designed to mount in Lambda Standard Rack Adapters. LM-F and G Models are full rack supplies.

## Mil Specs

RFI: MIL-1-16910, temp. shock: MIL-E-5272C (ASG) Proc. 1 vibration: MIL-T-4807A, altitude: MIL-E-4970A (ASG) Proc 1 shock: MIL-E-4970A Proc 1 & 2 humidity: MIL-STD-810 Meth. 507, Proc. 1, fungus proofing: MIL-V-173.

Package Model	Weight		Size Inches
	Lbs. Net	Lbs. Ship	
LM-B	6	7	3-3/16 x 4-15/16 x 6-1/2
LM-C	9	10	3-3/16 x 4-15/16 x 9-3/8
LM-CC	15	17	4-15/16 x 4-15/16 x 9-3/8
LM-D	20	23	4-15/16 x 7-1/2 x 9-3/8
LM-E	28	31	4-15/16 x 7-1/2 x 11-3/4
LM-F	54	64	3-1/2 x 19 x 16-1/2
LM-G	72	84	5-3/16 x 19 x 16-1/2

## Finish

LM-B, C, CC, D, E, F and G—grey, FED. STD. 595 No. 26081, LM-F and G front panels brushed aluminum clear anodized panels with grey inlay (standard).

## Accessories

Rack adapters, chassis slides, overvoltage protectors, blank panels see pages 66-68.

## Options

### High Performance

Add suffix "-Y" — all models available with these specifications for \$15.00 extra; line regulation .01% + 1 mV; Load regulation .02% + 2 mV; Ripple and noise — with 60 Hz input: 0.5 mV RMS; 1.5 mV pk-pk with either positive or negative terminal grounded; Temp. coeff. .01%/°C.

## AC Input

Add Suffix	For Operation at:	Price Qty. 1-14	Price Single Model Qty. 15 & up	Price Mixed Models Qty. 15 & up
-V	187-242 VAC 47-440 Hz	12% or \$30*	10%	12% or \$30*
-V1	206-265 VAC 47-440 Hz	12% or \$30*	10%	12% or \$30*

\*whichever is greater.

## Fungus Proofing

Add suffix "-R" — all models can be obtained with MIL-V-173 varnish for all fungi nutrient components. LM-B thru E at \$10.00 surcharge. All LM-F, LM-G models have all fungi nutrient components rendered fungi inert with MIL-V-173 varnish—standard and included in price.

## Guaranteed for 5 Years

5-year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 5 years.

**RJ** Recognized

# 5-year guaranteed linear selector guide

## Single output wide range Models LM.

MODEL	REGULATION (line load)	RIPPLE (RMS)	40°C	MAX AMPS AT AMBIENT OF				COMPLETE ELEC. SPEC. PG	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC. PG	PRICE
				50°C	60°C	71°C						
<b>8.5-14 VOLTS ADJ.</b>												
LM-235	0.05% + 4 mV, 0.03% + 3 mV	1 mV	7.7	6.8	6.0	4.8	43	D	4-15/16 x 7-1/2 x 9-3/8	128	550	
<b>0-14 VOLTS ADJ.</b>												
LM-B-0-14	0.05% + 4 mV, 0.03% + 3 mV	1 mV	1.6	1.5	1.3	1.2	43	B	3-3/16 x 4-15/16 x 6-1/2	127	322	
LM-D-0-14	0.05% + 4 mV, 0.03% + 3 mV	1 mV	4.9	4.2	3.4	2.7	43	D	4-15/16 x 7-1/2 x 9-3/8	128	550	
<b>22-32 VOLTS ADJ.</b>												
LM-219	0.05% + 4 mV, 0.03% + 3 mV	1 mV	1.2	1.1	1.0	0.8	43	B	3-3/16 x 4-15/16 x 6-1/2	127	339	
LM-228	0.05% + 4 mV, 0.03% + 3 mV	1 mV	2.0	1.8	1.5	1.2	43	C	3-3/16 x 4-15/16 x 9-3/8	127	392	
LM-237	0.05% + 4 mV, 0.03% + 3 mV	1 mV	5.0	4.4	3.9	3.1	43	D	4-15/16 x 7-1/2 x 9-3/8	128	610	
<b>30-60 VOLTS ADJ.</b>												
LM-220	0.05% + 4 mV, 0.03% + 3 mV	1 mV	0.70	0.65	0.60	0.45	43	B	3-3/16 x 4-15/16 x 6-1/2	127	392	
LM-229	0.05% + 4 mV, 0.03% + 3 mV	1 mV	1.1	1.0	0.8	0.6	43	C	3-3/16 x 4-15/16 x 9-3/8	127	424	
<b>5 VOLTS ± 5% ADJ.</b>												
LM-B-5	0.05% + 4 mV, 0.03% + 3 mV	1 mV	3.7	3.2	2.5	1.5	43	B	3-3/16 x 4-15/16 x 6-1/2	127	339	
LM-C-5	0.05% + 4 mV, 0.03% + 3 mV	1 mV	5.1	4.3	3.4	2.4	43	C	3-3/16 x 4-15/16 x 9-3/8	127	392	
LM-CC-5	0.05% + 4 mV, 0.03% + 3 mV	1 mV	10.5	9.0	8.0	5.5	43	CC	4-15/16 x 4-15/16 x 9-3/8	128	531	
LM-E-5	0.05% + 4 mV, 0.03% + 3 mV	1 mV	20.0	18.0	16.4	10.0	43	E	4-15/16 x 7-1/2 x 11-3/4	129	781	
LM-F-5-M-R <sup>(*)</sup>	0.05% + 4 mV, 0.03% + 3 mV	1 mV	48.0	41.0	33.0	25.0	43	F	3-1/2 x 19 x 16-1/2	130	1522	
LM-G-5-M-R <sup>(*)</sup>	0.05% + 4 mV, 0.03% + 3 mV	1 mV	80.0	75.0	62.0	45.0	43	G	5-3/16 x 19 x 16-1/2	130	1910	

All outputs continuously adjustable over entire range. For other voltages or currents not listed see page 65 or consult your local Lambda Sales Engineer.

<sup>(\*)</sup>Ratings in parenthesis for LD series when cover is used.

# 5-year guaranteed linear selector guide

Single output fixed voltage  
Models LD, LN, LC, LX and LM.

MODEL	REGULATION (line load)	RIPPLE (RMS)	40°C	MAX AMPS AT AMBIENT OF			71°C	COMPLETE ELEC. SPEC. PG	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC. PG	PRICE
				50°C	60°C							
<b>12 VOLTS ± 5% ADJ.</b>												
LM-B-12	0.05% + 4 mV, 0.03% + 3 mV	1 mV	2.5	2.3	2.1	1.3	43	B	3-3/16 x 4-15/16 x 6-1/2	127	339	
LM-C-12	0.05% + 4 mV, 0.03% + 3 mV	1 mV	4.0	3.5	2.9	1.9	43	C	3-3/16 x 4-15/16 x 9-3/8	127	392	
LM-G-12-M-R <sup>(4)</sup>	0.05% + 4 mV, 0.03% + 3 mV	1 mV	56.0	46.0	37.0	29.0	43	G	5-3/16 x 19 x 16-1/2	130	1910	
<b>15 VOLTS ± 5% ADJ.</b>												
LM-B-15	0.05% + 4 mV, 0.03% + 3 mV	1 mV	2.2	2.0	1.8	1.3	43	B	3-3/16 x 4-15/16 x 6-1/2	127	339	
LM-C-15	0.05% + 4 mV, 0.03% + 3 mV	1 mV	3.5	3.2	2.8	1.9	43	C	3-3/16 x 4-15/16 x 9-3/8	127	392	
LM-CC-15	0.05% + 4 mV, 0.03% + 3 mV	1 mV	6.0	5.6	5.1	4.3	43	CC	4-15/16 x 4-15/16 x 9-3/8	128	531	

<sup>(4-12)</sup> See page 33. For other voltages or currents not listed see page 65 or consult your local Lambda Sales Engineer.

<sup>(6)</sup> Ratings in parenthesis for LD and LN series when cover is used.

# 5-year guaranteed linear selector guide

## Single output fixed voltage Models LD, LN, LC, LX and LM.

MODEL	REGULATION (No. load)	RIPPLE (RMS)	MAX AMPS AT AMBIENT OF				COMPLETE ELEC. SPEC. PG	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC. PG	PRICE
			40°C	50°C	60°C	71°C					
<b>24 VOLTS ±5% ADJ.</b>											
LM-B-24	0.05% + 4 mV, 0.03% + 3 mV	1 mV	1.4	1.3	1.2	1.1	43	B	3-3/16 x 4-15/16 x 6-1/2	127	339
LM-C-24	0.05% + 4 mV, 0.03% + 3 mV	1 mV	2.5	2.4	2.2	1.5	43	C	3-3/16 x 4-15/16 x 9-3/8	127	392
LM-D-24	0.05% + 4 mV, 0.03% + 3 mV	1 mV	6.7	6.3	5.8	4.8	43	D	4-15/16 x 7-1/2 x 9-3/8	128	617
LM-E-24	0.05% + 4 mV, 0.03% + 3 mV	1 mV	11.0	10.0	9.0	7.6	43	E	4-15/16 x 7-1/2 x 11-3/4	129	781
LM-F-24-M-R <sup>(*)</sup>	0.05% + 4 mV, 0.03% + 3 mV	1 mV	20.0	17.0	14.0	11.0	43	F	3-1/2 x 19 x 16-1/2	130	1522
LM-G-24-M-R <sup>(*)</sup>	0.05% + 4 mV, 0.03% + 3 mV	1 mV	32.0	26.0	21.0	16.0	43	G	5-3/16 x 19 x 16-1/2	130	1910
<b>28 VOLTS ±5% ADJ.</b>											
LM-B-28	0.05% + 4 mV, 0.03% + 3 mV	1 mV	1.3	1.2	1.1	1.0	43	B	3-3/16 x 4-15/16 x 6-1/2	127	339
LM-C-28	0.05% + 4 mV, 0.03% + 3 mV	1 mV	2.3	2.1	2.0	1.4	43	C	3-3/16 x 4-15/16 x 9-3/8	127	392

28 Volts ±5% continued next page.

<sup>(\*)</sup> See page 33. For other voltages or currents not listed see page 65 or consult your local Lambda Sales Engineer

<sup>(\*)</sup> Ratings in parenthesis for LD and LN series when cover is used.

# 5-year guaranteed linear selector guide

## Single output fixed voltage Models LD, LN, LC, LX and LM

MODEL	REGULATION (line load)	RIPPLE (RMS)	40°C	MAX AMPS AT AMBIENT OF			COMPLETE ELEC. SPEC. PG	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC. PG	PRICE
				50°C	60°C	71°C					
<b>28 VOLTS ± 5% ADJ. (Cont'd)</b>											
LM-D-28	0.05% + 4 mV, 0.03% + 3 mV	1 mV	6.0	5.6	5.2	4.7	43	D	4-15/16 x 7-1/2 x 9-3/8	128	617
LM-E-28	0.05% + 4 mV, 0.03% + 3 mV	1 mV	10.0	9.0	8.0	7.1	43	E	4-15/16 x 7-1/2 x 11-3/4	129	781
LM-F-28-M-R <sup>(*)</sup>	0.05% + 4 mV, 0.03% + 3 mV	1 mV	19.0	16.0	13.0	10.0	43	F	3-1/2 x 19 x 16-1/2	130	1522
LM-G-28-M-R <sup>(*)</sup>	0.05% + 4 mV, 0.03% + 3 mV	1 mV	28.0	25.0	21.0	16.0	43	G	5-3/16 x 19 x 16-1/2	130	1910
<b>36 VOLTS ± 5% ADJ.</b>											
LM-E-36	0.05% + 4 mV, 0.03% + 3 mV	1 mV	8.0	7.3	6.5	5.7	43	E	4-15/16 x 7-1/2 x 11-3/4	129	781
<b>48 VOLTS ± 5% ADJ.</b>											
LM-CC-48	0.05% + 4 mV, 0.03% + 3 mV	1 mV	2.5	2.4	2.2	1.9	43	CC	4-15/16 x 4-15/16 x 9-3/8	128	531
LM-E-48	0.05% + 4 mV, 0.03% + 3 mV	1 mV	6.0	5.4	4.9	4.3	43	E	4-15/16 x 7-1/2 x 11-3/4	129	781

<sup>(2,3,7,13)</sup> See page 33. For other voltages of currents not listed see page 65 or consult your local Lambda Sales Engineer.  
<sup>(\*)</sup> Ratings in parenthesis for LN series when cover is used.

# 5-year guaranteed linear selector guide

Single output fixed voltage  
Models LD, LN, LC, LX and LM

MODEL	REGULATION (line load)	RIPPLE (RMS)	MAX AMPS AT AMBIENT OF				COMPLETE ELEC. SPEC. PG	PKG. SIZE	DIMENSIONS (inches)	COMPLETE MECH. SPEC. PG	PRICE
			40°C	50°C	60°C	71°C					
<b>120 VOLTS ± 5% ADJ.</b>											
LM-D-120	0.05% + 4 mV. 0.03% + 3 mV	1 mV	1.50	1.30	1.10	1.00	43	D	4-15/16 x 7-1/2 x 9-3/8	128	617
<b>150 VOLTS ± 5% ADJ.</b>											
LM-D-150	0.05% + 4 mV. 0.03% + 3 mV	1 mV	1.10	1.00	0.90	0.80	43	D	4-15/16 x 7-1/2 x 9-3/8	128	617