

DLM 600 Series

600 WATTS PROGRAMMABLE DC SUPPLY

Features

- High power density
- High efficiency
- Remote voltage sense & remote operation
- Master/slave paralleling, active current sharing
- Low output noise
- CE mark, UL listing mark and C-UL listing mark
- Ethernet/LAN Interface Option



Specifications

INPUT

Input voltage	90-132 / 180-264VAC, auto-ranging, 2 Wires + ground
Frequency	47-63Hz
Current	11A max. at 115VAC, 6A max. at 230VAC

OUTPUT

Voltage adjustment	Zero to rated output
Current adjustment	Zero to rated output
Ripple & Noise	See table
Line regulation	Voltage: 0.005% of $V_{max} + 2mV$ Current: 0.01% of $I_{max} + 2mA$
Load regulation	Voltage: 0.005% of $V_{max} + 2mV$ Current: 0.02% of $I_{max} + 5mA$
Transient response	500 μs to steady-state output voltage (within 0.1% of V_{max}) for 50-100% or 100-50% load change
Stability	+/-0.05% of maximum voltage or current over 8 hours after 30 minute warm-up time at fixed line, load and temperature
Temperature coefficient	0.02%/°C of maximum output voltage 0.03%/°C of maximum output current

ENVIRONMENTAL

Operating temperature	0°C to 50°
Storage temperature	-40°C to 65°C
Cooling	Internal variable speed fan with over-temperature protection.

OPERATING

Efficiency	84% typical at maximum power 82% typical for DLM 5-7 and DLM 8-75
Parallel/Series operation	Up to 4 unit of the same model can be connected in parallel, with active current sharing control. Series operation, multiple units of same model can be connected in series, limited by 300Vpk between either output terminal and chassis
Remote sense	The maximum allowed load line drop with remote sensing is 1V total for DLM 5-75 & DLM 8-75 model, 2V total for all other model
Remote programming	Voltage, current (0-100%) and OVP (5-110%) of full scale can be programmed by selectable 0-5VDC, 0-10VDC, or 0-5K Ω
Remote monitoring	Voltage or current can be Monitored with user-selectable ranges, scaled to 0-5VDC or 0-10VDC
Displays and indicators	Two 3.5 digital LED displays indicate voltage, current and, over-voltage output set point, fault, external off, remote and output on
Software	LabVIEW® driver for M9G/M85 (Contact Powerbox)
Regulatory compliance	CE mark, UL listing mark and C-UL listing mark

MECHANICAL

Case	Enclosed
Dimensions	1RU 44(H) x 216 (W) x 432mm(D)
Weight	4.4Kg
Connectors	Input: IEC320 Output: Bus bar with 10-32 screws for 5-60VDC models; terminal blocks with 6-32 screws for 80-300V models

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Selection Table

MODEL NUMBER	OUTPUT RATING			LINE REGULATION		LOAD REGULATION	
	VOLTAGE (VDC)	CURRENT (ADC)	POWER (WATTS)	VOLTAGE (0.01% OF VMAX +2mV)	CURRENT (0.02% OF IMAX +2mA)	VOLTAGE (0.01% OF VMAX +2mV)	CURRENT (0.05% OF IMAX +5mA)
DLM 5-75	0-5	0-75	375	2.4mV	9.5mA	2.4mV	20mA
DLM 8-75	0-8	0-75	600	2.4mV	9.5mA	2.4mV	20mA
DLM10-60	0-10	0-60	600	2.5mV	8mA	2.5mV	17mA
DLM 20-30	0-20	0-30	600	3mV	5mA	3mV	11mA
DLM 40-15	0-40	0-15	600	4mV	3.5mA	4mV	8mA
DLM 60-10	0-60	0-10	600	5mV	3mA	5mV	7mA
DLM 80-7.5	0-80	0-7.5	600	6mV	2.8mA	6mV	6.5mA
DLM 150-4	0-150	0-4	600	9.5mV	2.2mA	9.5mV	5.8mA
DLM 300-2	0-300	0-2	600	17mV	2.1mA	17mV	5.4mA

MODEL NUMBER	PROGRAMMING ACCURACY						DISPLAY ACCURACY	
	ETHERNET (M130/M131)			GPIB (M9G/M85)			VOLTAGE (0.5% OF VMAX +1)	CURRENT (1.0% OF IMAX +1)
	VOLTAGE (0.1% OF VMAX)	CURRENT (0.25% OF IMAX)	OVP (0.5% OF 1.1 X VMAX)	VOLTAGE (0.2% OF VMAX)	CURRENT (0.5% OF IMAX)	OVP (1.0% OF 1.1 X VMAX)		
DLM 5-75	8mV	188mA	44mV	16mV	375mA	55mV	35mV	850mA
DLM 8-75	8mV	188mA	44mV	16mV	375mA	88mV	50mV	850mA
DLM10-60	10mV	150mA	55mV	20mV	300mA	110mV	60mV	700mA
DLM 20-30	20mV	75mA	110mV	40mV	150mA	220mV	200mV	400mA
DLM 40-15	40mV	38mA	220mV	80mV	75mA	440mV	300mV	160mA
DLM 60-10	60mV	25mA	330mV	120mV	50mA	660mV	400mV	110mA
DLM 80-7.5	80mV	19mA	440mV	160mV	38mA	880mV	500mV	85mA
DLM 150-4	150mV	10mA	825mV	300mV	20mA	1.65V	850mV	50mA
DLM 300-2	300mV	5mA	1.65V	600mV	10mA	3.3V	2.5V	30mA

MODEL NUMBER	RIPPLE AND NOISE, VOLTAGE MODE		OVP ADJUSTMENT RANGE (5% - 110% OF VMAX)	STABILITY		TEMPERATURE COEFFICIENT		MAXIMUM TOTAL REMOTE SENSE DROP
	RIPPLE (RMS)*	NOISE (P-P)*		VOLTAGE (0.05% OF VMAX)	CURRENT (0.05% OF IMAX)	VOLTAGE (0.02%/°C OF VMAX)	CURRENT (0.03%/°C OF IMAX)	
DLM 5-75	5mV	30mV	0.25-.55V	2.5mV	37.5mA	1mV/°C	22.5mA/°C	1V
DLM 8-75	5mV	30mV	0.4-8.8V	4mV	37.5mA	1.6mV/°C	22.5mA/°C	1V
DLM10-60	5mV	30mV	0.5-11V	5mV	30mA	2mV/°C	18mA/°C	2V
DLM 20-30	2.5mV	15mV	1-22V	10mV	15mA	4mV/°C	9mA/°C	2V
DLM 40-15	2.5mV	15mV	2-44V	20mV	7.5mA	8mV/°C	4.5mA/°C	2V
DLM 60-10	2.5mV	20mV	3-66V	30mV	5mA	12mV/°C	3mA/°C	2V
DLM 80-7.5	4mV	20mV	4-88V	40mV	3.75mA	16mV/°C	2.25mA/°C	2V
DLM 150-4	7mV	40mV	7.5-165V	75mV	2mA	30mV/°C	1.2mA/°C	2V
DLM 300-2	10mV	60mV	15-330V	150mV	1mA	60mV/°C	0.6mA/°C	2V

*RMS noise typical from 20Hz to 20MHz

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REMOTE INTERFACE OPTIONS

M9G	IEEE-488.2 and RS 232 Interfaces
M6	Disconnect & Polarity reversal relays(10V to 300V models only, This option requires at least one of the following operations: M9G, M85, M130 or M131)
M13	Locking Shafts
M51A	Optically Isolated Analog Programming and Monitoring
M85	Multi-channel Slave Interface
M130	Ethernet/LAN and RS232C Interfaces (16 bit)
M131	Multi-channel Slave Interface (16 bit)(M130 Master ONLY)

PARALLEL CABLE

DLMP1	Paralleling Cable; One cable per slave unit
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RACK-MOUNT KIT

DLMRX	Rack-mount Kit for single DLM with filter panel and for two units mounted side by side
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Technical Illustrations

