



POWER PRODUCTS

Sorensen
Division of ELGAR

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DLM-DC Low profile Medium power programmable supply

The DLM 4 kW programmable DC power supplies are designed to provide highly stable, continuously variable output voltage and current for a broad range of applications; all in a 2U (3-1/2") high chassis.

All cooling air flows from the front to the rear panel allowing maximum rackmount packing density.

The 4 kW power rating is new to the Sorensen family of power supplies. These models have a voltage range from 0-8 VDC to 0-80 VDC and a current range from 0-50A to 0-450A. They have a 0.92 power factor (typical) with a 3-phase input. The output has 15 mV (max.) ripple at full load. The output will recover in 1 ms to the rated voltage for a step load change of 100% to 70% or 70% to 100%.

The front panel layout makes the series extremely easy to use. Control switches include power on, enable/standby and local/remote. Displays and indicators show programmed set points and operational control status. The programmed voltage, current and overvoltage set points are displayed with large 3-1/2 digit LED segments. Operational Status LED's indicate power on, shutdown, overtemperature, overvoltage,

constant current and voltage mode status. Control Status LED's indicate: front panel lock out, remote control and standby status. GPIB control LED's indicate: error, service request and address status.

The DLM supplies have front panel preview buttons. The voltage, current and overvoltage programmed values can be viewed on the front panel displays anytime during the operation whether the supply's output is on or in standby mode. The preview feature can be activated under manual, remote analog or remote digital control.

The DLM supplies have two basic operating modes: Constant Voltage and Constant Current. An automatic crossover system enables the unit to switch operating modes in response to varying load requirements.

The DLM supplies can be operated in parallel or series mode. Up to five DLM's can be connected in parallel to increase the current output. Up to three DLM's can be connecte in series to increase the operational voltage range.

Parallel operation is as simple as paralleling the bus bars and connecting the units with a factory supplied cable with RJ11 connectors.

The rear panel has bus bar connections for the output power. A fuse block connector allows for simple three phase input power connection. Remote sense leads are easily connected to a solderless plug-in connector.

Full programmability and status monitoring are available with the standard analog interface using either 0-5 VDC or 0-10 VDC (user selectable from an external dip switch) or with the optional IEEE-488.2 GPIB and RS 232 interface. A LabVIEW software driver is available.

SPECIFICATIONS

OUTPUT

Voltage and Current

Model	Voltage	Current
DLM 8-450	0-8	0-450
DLM 16-250	0-16	0-250
DLM 40-100	0-40	0-100
DLM 60-66	0-60	0-66
DLM 80-50	0-80	0-50

Noise and Ripple: [See tables \(click here\)](#)

Regulation (line or load)

Voltage: 0.05% of maximum rated output + 2 mV

Current: 0.1% of maximum rated output

Transient Response: 1 ms to 1% of rated output voltage for a 70%

to 100% or 100% to 70 % load change

Stability: $\pm 0.05\%$ maximum rating over 8 hours after a 15 minute warm-up time at fixed line, load and temperature

Efficiency: 8V model - 82% typical 16-80V models - 87% typical

Temperature Coefficient: $0.02\%/^{\circ}\text{C}$ of rated output voltage;
 $0.03\%/^{\circ}\text{C}$ of rated output current

INPUT

Voltage and Frequency:

4 kW: 190-253 VAC, 47-63 Hz, three-phase, 3-wire plus ground

Power Factor:

0.92 typical with 3 phase input

GENERAL

Operating Temperature: 0°C to $+50^{\circ}\text{C}$; No derating

Storage Temperature: -40°C to 85°C

Cooling: Internal fans with Overtemperature protection

Controls (front panel): Knobs with 3-1/2 digit digital displays to control output voltage and current settings. Power on/off switch, Output Enable/Standby switch and Local/Remote switch. Voltage, Current and Overvoltage preview push buttons allow you to preview the programmed settings at anytime, overvoltage limit is adjusted with a set screw accessible through the front panel.

Display and Indicators: Voltage and Overvoltage settings 3-1/2 digit LED display, Current settings 3-1/2 digit LED display. LED indicators for Power On, Shutdown, Remote, Overvoltage Protection, Overtemperature and Front Panel Lockout, Constant Voltage and Constant Current modes. GPIB indicators include Error, SRQ and Address.

Built-in Protection: Overvoltage (resets by cycling the Enable/Standby switch), Overtemperature (will automatically reset)

Remote Sense: The maximum allowed sense line drop is 2V for 8V and 16V models and 5V for all other models.

Remote Sense Protection: Unit will not be damaged due to misconnection of the remote sense leads.

Control/Monitor (rear panel):

Remote Programming:

Voltage and Current (0 to 100%)

Resistive
0-5K ohms

Voltage
0-5 VDC
0-10 VDC

Operational Features: Master/Slave Parallel Operation, up to 5 units can be connected in parallel with active current sharing control to within 10% of each supply. Series Operation, up to 3 units of the same model type can be connected in series.

Software: LabVIEW driver for graphical programming can be

downloaded at no cost at www.sorensen.com/support/downloads.cfm (click here)

Dimensions: (click here)

4 kW: 3½" H (88 mm) x 19" W (482.6 mm) x 18" D (508 mm)

Weight: 40 lbs. (18.2 kg)

Shipping Weight: 49 lbs. (22.3 kg)

OPTIONS

Remote Interface Options:

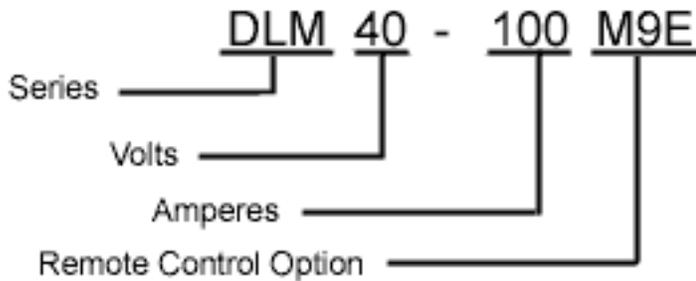
M9E

IEEE-488.2 GPIB Interface and RS 232

M85

Multichannel Slave Interface Control

DLM Model Number Description



Options	
Remote Control	Description
M9E	IEEE-488.2 GPIB and RS 232 Interface
M85	Multichannel Slave Interface Control