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LAB-DSP

High Density DC Power Source

Description

The LAB-DSP product family has 33 models covering a range of 6V to 600V and 1A to 400A. Outputs are available at 750W, 1500W and 3000W. All units operate from a single phase wide AC input (85 to 265Vac) with active PFC. Up to 5 identical units can be connected in parallel to provide up to 15kW output power. The required output current is actively shared when the units are connected in parallel. For systems requiring high reliability the parallel feature provides redundancy as should one unit fail the others will continue to operate. Series operation of 2 units is also possible. The LAB-DSP also allows the user to set the voltage ramp up and ramp down times. Response times to a load step change are better than 2ms with some models <1ms. Along with front panel control and display, RS485 & IEEE 488.2 interfaces are provided as standard. Voltage and current programming via analogue signal along with output on/off is also included. This series of power supplies can be found in a very wide range of market sectors and applications including: Aerospace, telecom, ATE, quality control, chemical processing, water purification, electroplating, sputtering and coating, semiconductor manufacture, burn-in along with general R&D.



- GPIB, RS485 & analog as standard
- 16 bit setting & measurement
- 2U height for 3kW of power
- Configurable OCP and OVP
- Adjustable voltage ramp
- CV/CC operating modes
- Active PFC of 0.99

Technical Data

Input Voltage.....	85 - 265V _{AC}	Temperature Coefficient.....	100PPM/°C of rated output ^(c)
Input Frequency.....	47-63Hz	CC Temperature Drift.....	0.05% rated V _{OUT} after 8hrs ^(d)
Input Current (750W Output).....	5A (at 230V _{AC})	Front Panel Resolution.....	4 digits
Input Current (1500W Output).....	11A (at 230V _{AC})	Panel Setting Accuracy (V).....	± 0.1% ± 3C at rated voltage
Input Current (3000W Output).....	22A (at 230V _{AC})	Panel Setting Accuracy (I).....	± 0.5% ± 3C at rated current
Insulation Resistance.....	>100MΩ	Panel Display Accuracy (V).....	± 0.2% reading ± 5 digits
Power Factor.....	0.99	Panel Display Accuracy (I).....	± 0.5% reading ± 5 digits
Efficiency Range.....	76-88% ^(a)	Resolution (set and read).....	16 bits
Command Response Time.....	55ms	Command & DA Setting Accuracy (V).....	± 0.01% ± 3C at rated voltage
Transient Response Time (0 - 20V) (CV).....	<=1.5mS	Command & DA Setting Accuracy (I).....	± 0.01% ± 3C at rated current
Transient Response Time (30 - 100V) (CV).....	<= 1mS	Command & AD Measurement Accuracy (V).....	± 0.02% ± 2C at rated voltage
Transient Response Time (150 - 600V) (CV).....	<= 2mS	Command & AD Measurement Accuracy (I).....	± 0.05% ± 3C at rated current
Output Polarity.....	floating	Protective Functions.....	Programmable overvoltage
Output Ramp Up Time.....	0.1 - 99.9s	Protective Functions.....	Programmable overcurrent
Output Ramp Down Time.....	0.1 - 99.9s ^(b)	Protective Functions.....	Overtemp & sense line loss
Analog Setting Accuracy (0 - 10V) (CC & CV).....	± 5%	Operating Temperature.....	0 - 40°C (30 - 90%RH)
Analog Monitor Accuracy (0 - 10V) (Voltage).....	V _{OUT} ± 0.25V	Storage Temperature.....	-20 - 70°C (10% - 90%RH)
Analog Monitor Accuracy (0 - 10V) (Current).....	I _{OUT} ± 0.25V	Cooling.....	Temperature controlled fan
Withstand Voltage (Input - Output).....	2000V _{AC} : 1 minute	Weight (750W/1.5kW/3kW).....	<5kgs/<8kgs/<17kgs
Withstand Voltage (Input - Ground).....	2000V _{AC} : 1 minute	Height (750W/1.5kW/3kW).....	1U (half rack)/1U/2U
Noise.....	<70Db (A)	Remote Sense Compensation.....	1V to 5V dep on model

(a) Actual efficiency depends on model and output.
 (b) Output ramp down time varies between models.

(c) Measurements accurate following 30 minutes warm-up.
 (d) Measurements accurate following 30 minutes warm-up. Constant line, load & temp



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LAB-DSP High Density DC Power Supply

Selection Table

Part Number	Output Voltage	Output Current	Output Power	Ripple		Line Reg		Load Reg		Response Time (s)		
				CV 0.05% +mV	CC 0.1% +mA	CV 0.05% +mV	CC 0.1% +mA	CV 0.05% +mV	CC 0.1% +mA	Full Load UP	Full Load DOWN	No Load DOWN
LAB-DSP-006-100HD	0 - 6V	0 - 100A	750W	10	180	2.8	11	2.8	23	0.08	0.05	0.6
LAB-DSP-008-090HD	0 - 8V	0 - 90A	750W	10	180	2.8	11	2.8	23	0.08	0.05	0.6
LAB-DSP-020-038HD	0 - 20V	0 - 38A	750W	10	76	4.0	5.8	4.0	13	0.08	0.05	0.8
LAB-DSP-030-025HD	0 - 30V	0 - 25A	750W	10	63	5.0	4.5	5.0	10	0.08	0.08	0.9
LAB-DSP-040-019HD	0 - 40V	0 - 19A	750W	10	48	6.0	3.9	6.0	8.8	0.08	0.08	1.0
LAB-DSP-060-12.5HD	0 - 60V	0 - 12.5A	750W	10	38	8.0	3.3	8.0	7.5	0.08	0.08	1.1
LAB-DSP-080-09.5HD	0 - 80V	0 - 9.5A	750W	10	29	10	2.9	10	6.9	0.15	0.15	1.2
LAB-DSP-100-07.5HD	0 - 100V	0 - 7.5A	750W	10	23	12	2.8	12	6.5	0.15	0.15	1.5
LAB-DSP-150-005HD	0 - 150V	0 - 5A	750W	16	18	17	2.5	17	6.0	0.15	0.15	2.0
LAB-DSP-300-02.5HD	0 - 300V	0 - 2.5A	750W	25	13	32	2.3	32	5.5	0.15	0.15	3.0
LAB-DSP-600-01.25HD	0 - 600V	0 - 1.25A	750W	75	8	62	2.2	62	5.3	0.30	0.30	4.0
LAB-DSP-006-200HD	0 - 6V	0 - 200A	1500W	15	360	2.8	19	2.8	38	0.08	0.05	0.6
LAB-DSP-008-180HD	0 - 8V	0 - 180A	1500W	15	360	2.8	19	2.8	38	0.08	0.05	0.6
LAB-DSP-020-076HD	0 - 20V	0 - 76A	1500W	15	152	4.0	9.6	4.0	20	0.08	0.05	0.8
LAB-DSP-030-050HD	0 - 30V	0 - 50A	1500W	15	125	5.0	7.0	5.0	15	0.08	0.08	0.9
LAB-DSP-040-038HD	0 - 40V	0 - 38A	1500W	15	95	6.0	5.8	6.0	13	0.08	0.08	1.0
LAB-DSP-060-025HD	0 - 60V	0 - 25A	1500W	15	75	8.0	4.5	8.0	10	0.08	0.08	1.1
LAB-DSP-080-019HD	0 - 80V	0 - 19A	1500W	15	57	10	3.9	10	8.8	0.15	0.15	1.2
LAB-DSP-100-015HD	0 - 100V	0 - 15A	1500W	15	45	12	3.5	12	8.0	0.15	0.15	1.5
LAB-DSP-150-010HD	0 - 150V	0 - 10A	1500W	24	45	17	3.0	17	7.0	0.15	0.15	2.0
LAB-DSP-300-005HD	0 - 300V	0 - 5A	1500W	38	25	32	2.5	32	6.0	0.15	0.15	3.0
LAB-DSP-600-02.5HD	0 - 600V	0 - 2.5A	1500W	113	15	62	2.3	62	5.5	0.25	0.30	4.0
LAB-DSP-006-400HD	0 - 6V	0 - 400A	3000W	10	1000	2.8	42	6.2	85	0.08	0.02	0.5
LAB-DSP-008-360HD	0 - 8V	0 - 360A	3000W	10	1000	2.8	42	6.2	85	0.08	0.02	0.5
LAB-DSP-020-150HD	0 - 20V	0 - 150A	3000W	10	600	4.0	19	8.0	38	0.08	0.1	0.8
LAB-DSP-030-100HD	0 - 30V	0 - 100A	3000W	10	310	5.0	13	9.5	27	0.08	0.16	0.9
LAB-DSP-040-075HD	0 - 40V	0 - 75A	3000W	10	250	6.0	11	11	22	0.08	0.16	1
LAB-DSP-060-050HD	0 - 60V	0 - 50A	3000W	10	150	8.0	7.5	14	16	0.08	0.16	1.1
LAB-DSP-080-038HD	0 - 80V	0 - 38A	3000W	10	110	10	6.2	17	14	0.15	0.3	1.2
LAB-DSP-100-030HD	0 - 100V	0 - 30A	3000W	10	90	12	5.3	20	12	0.15	0.3	1.5
LAB-DSP-150-020HD	0 - 150V	0 - 20A	3000W	16	90	17	4.2	28	9.4	0.15	0.3	2
LAB-DSP-300-010HD	0 - 300V	0 - 10A	3000W	25	50	32	3.1	50	7.2	0.15	0.3	3.5
LAB-DSP-600-005HD	0 - 600V	0 - 5A	3000W	75	30	62	2.6	95	6.1	0.25	0.5	4

Options Table

Code	Description
/DSP-OPT-PAR.....	External parallel board to connect up to five units.
/DSP-OPT-SER.....	External serial board to connect two units
/191UH.....	Blank panel to mount 750W (1UH) units into a 19" rack.

Every effort is made to ensure that the information provided within this technical summary is accurate. However, ET must reserve the right to make changes to the published specifications without prior notice. Where certain operating parameters are critical for your application we advise that they be confirmed at the time of order. ET specialises in modifying its proven platforms to suit your needs. Please contact our office if your requirement is non-standard. Please note that your actual unit may differ from those shown.