

LAB-DSPH

BENCHTOP DC POWER SUPPLY



POSITIVE PROBLEM SOLVING **+ =**

The LAB-DSPH units are packaged in a convenient benchtop case with outputs of either 750W or 1.5kW. 15 different models are available at each power level.

All units operate from a single phase wide AC input with active PFC. Using the optional master/slave cards up to 5 identical units can be connected in parallel to provide up to 1000A and 7.5kW. The required output current is actively shared when the units are connected in parallel. Series operation of 2 units is also possible. Adjustable over-current and over-voltage protection help to ensure these units can be used with sensitive loads.

- + RS485 & Analogue as Standard
- + 16 Bit Setting & Measurement
- + Configurable OCP and OVP
- + Adjustable Voltage Ramp
- + CV/CC Operating Modes
- + Low Ripple and Noise

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FURTHER DETAILS

The LAB-DSPH allows the user to set the voltage ramp up and ramp down times via the front panel and computer interface. RS485 and analogue interfaces are provided as standard.

Excellent setting and measurement resolution is provided via the 16 bit processors. This can be enhanced for front panel operation by upgrading the display from the standard 4 digit to the optional 5 digit display. If the high resolution front panel option is chosen then a GPIB or LAN interface is also included along with the RS485 and analogue.

Measuring only 215mm wide and less than 45mm or 90mm high these compact DC Power Supplies can find space on even the most crowded test bench.

HIGHLIGHTED FEATURES



CONFORMAL COATING

An additional coating of the PCB is possible for all LAB-DSPH models. This ensures suitability in harsh environments by providing protection against moisture & high humidity.



MODIFICATIONS

Existing platforms can be modified by ETPS's design specialists to meet unusual test needs. Voltage or current outputs can be tailored to suit your requirements.



MASTER / SLAVE

Operation of several PSUs in series or parallel is possible. This allows users to retrospectively expand systems to meet ever changing power requirements.



INTERFACES

A variety of interfaces are available providing unrivalled flexibility for users. Each system can be configured with multiple interfaces.

SELECTION TABLE

Part Number	Max. Power	Voltage Range	Current Range	Ripple ¹		Line Regulation		Load Regulation		Response Time [s]		
				CV mV RMS	CC mA RMS	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-DSPH 006-100	750W	0 - 6V	0 - 100A	10	180	2.8	11	2.8	23	0.08	0.05	0.6
LAB-DSPH 008-090	750W	0 - 8V	0 - 90A	10	180	2.8	11	2.8	23	0.08	0.05	0.6
LAB-DSPH 012.5-060	750W	0 - 12.5V	0 - 60A	10	120	4.0	8.5	4.0	18	0.08	0.05	0.8
LAB-DSPH 020-038	750W	0 - 20V	0 - 38A	10	76	4.0	5.8	4.0	12.6	0.08	0.05	0.8
LAB-DSPH 030-025	750W	0 - 30V	0 - 25A	10	63	5.0	4.5	5.0	10	0.08	0.08	0.9
LAB-DSPH 040-019	750W	0 - 40V	0 - 19A	10	48	6.0	3.9	6.0	8.8	0.08	0.08	1.0
LAB-DSPH 050-015	750W	0 - 50V	0 - 15A	10	43	8.0	3.6	8.0	8.2	0.08	0.08	1.1
LAB-DSPH 060-12.5	750W	0 - 60V	0 - 12.5A	10	38	8.0	3.25	8.0	7.5	0.08	0.08	1.1
LAB-DSPH 080-09.5	750W	0 - 80V	0 - 9.5A	10	29	10	2.95	10	6.9	0.15	0.15	1.2
LAB-DSPH 100-07.5	750W	0 - 100V	0 - 7.5A	10	23	12	2.75	12	6.5	0.15	0.15	1.5
LAB-DSPH 150-005	750W	0 - 150V	0 - 5A	16	18	17	2.5	17	6.0	0.15	0.15	2.0
LAB-DSPH 300-02.5	750W	0 - 300V	0 - 2.5A	25	13	32	2.25	32	5.5	0.15	0.15	3.0
LAB-DSPH 350-02.1	750W	0 - 350V	0 - 2.1A	17	18	18	2.5	18	6.0	0.15	0.15	3.0
LAB-DSPH 450-01.7	750W	0 - 450V	0 - 1.7A	34	13	35	2.3	35	5.5	0.21	0.24	3.5
LAB-DSPH 600-01.25	750W	0 - 600V	0 - 1.25A	75	8.0	62	2.13	62	5.26	0.25	0.30	4.0
LAB-DSPH 006-200	1500W	0 - 6V	0 - 200A	15	360	2.8	18.5	2.8	38	0.08	0.05	0.6
LAB-DSPH 008-180	1500W	0 - 8V	0 - 180A	15	360	2.8	18.5	2.8	38	0.08	0.05	0.6
LAB-DSPH 012.5-120	1500W	0 - 12.5V	0 - 120A	15	248	3.4	14.5	4.0	28	0.08	0.05	0.8
LAB-DSPH 020-076	1500W	0 - 20V	0 - 76A	15	152	4.0	9.6	4.0	20.2	0.08	0.05	0.8
LAB-DSPH 030-050	1500W	0 - 30V	0 - 50A	15	125	5.0	7.0	5.0	15	0.08	0.08	0.9
LAB-DSPH 040-038	1500W	0 - 40V	0 - 38A	15	95	6.0	5.8	6.0	12.6	0.08	0.08	1.0
LAB-DSPH 050-030	1500W	0 - 50V	0 - 30A	15	85	7.0	5.2	7.0	11.4	0.08	0.08	1.1
LAB-DSPH 060-025	1500W	0 - 60V	0 - 25A	15	75	8.0	4.5	8.0	10	0.08	0.08	1.1
LAB-DSPH 080-019	1500W	0 - 80V	0 - 19A	15	57	10	3.9	10	8.8	0.15	0.15	1.2
LAB-DSPH 100-015	1500W	0 - 100V	0 - 15A	15	45	12	3.5	12	8.0	0.15	0.15	1.5
LAB-DSPH 150-010	1500W	0 - 150V	0 - 10A	24	45	12	3.5	12	8.0	0.15	0.15	2.0
LAB-DSPH 300-005	1500W	0 - 300V	0 - 5A	38	25	32	2.5	32	6.0	0.15	0.15	3.0
LAB-DSPH 350-04.2	1500W	0 - 350V	0 - 4.2A	38	25	32	2.5	32	6.0	0.15	0.15	3.0
LAB-DSPH 450-03.4	1500W	0 - 450V	0 - 3.4A	68	18	35	2.5	32	5.8	0.21	0.24	3.5
LAB-DSPH 600-02.5	1500W	0 - 600V	0 - 2.5A	113	15	62	2.26	62	5.5	0.25	0.30	4.0

¹ The ripple is measured over a bandwidth of 5Hz to 1MHz

Every effort is made to ensure that the information provided within this technical summary is accurate. However, ETPS Ltd 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. ETPS Ltd 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.



TECHNICAL DATA

GENERAL	
Input Voltage	90 - 264VAC (full output power only available at at 115VAC upwards)
Input Frequency	47-63Hz
Input Current (750W Output)	4.1A (at 230VAC)
Input Current (1500W Output)	8.1A (at 230VAC)
Insulation Resistance	>100M Ω
Power Factor	0.99
Efficiency Range	76-88% ^(a)
Command Response Time	55ms
Transient Response Time [0 - 20V] [CV]	\leq 1.5ms
Transient Response Time [30 - 100V] [CV]	\leq 1ms
Transient Response Time [150 - 600V] [CV]	\leq 2ms
Output Polarity	Floating
Output Ramp Up Time	0.1 - 99.9s
Output Ramp Down Time	0.1 - 99.9s ^(b)
Analog Setting Accuracy [0 - 10V] [CC & CV]	\pm 5%
Analog Monitor Accuracy [0 - 10V] [Voltage]	$V_{OUT} \pm 2.5\%$
Analog Monitor Accuracy [0 - 10V] [Current]	$I_{OUT} \pm 2.5\%$
Withstand Voltage (Input - Output)	2000VAC : 1 minute
Withstand Voltage (Input - Ground)	2000VAC : 1 minute
Noise	<70Db (A)
Temperature Coefficient	100PPM/ $^{\circ}$ C of rated output ^(c)
CC Temperature Drift	0.05% rated V_{OUT} after 8hrs ^(d)
Front Panel Resolution	4 digits (Option /HR, 5 digits)
Panel Setting Accuracy [V]	\pm 0.1% \pm 3C at rated voltage
Panel Setting Accuracy [I]	\pm 0.5% \pm 3C at rated current
Panel Display Accuracy [V]	\pm 0.2% reading \pm 5 digits
Panel Display Accuracy [I]	\pm 0.5% reading \pm 5 digits
Resolution [Set and Read]	16 bits
Command & DA Setting Accuracy [V]	\pm 0.1% \pm 3C at rated voltage
Command & DA Setting Accuracy [I]	\pm 0.5% \pm 3C at rated current
Command & AD Measurement Accuracy [V]	\pm 0.2% \pm 2C at rated voltage
Command & AD Measurement Accuracy [I]	\pm 0.5% \pm 3C at rated current
Protective Functions	Programmable overvoltage
Protective Functions	Programmable overcurrent
Protective Functions	Overtemperature & sense line loss
Operating Temperature	0 - 40 $^{\circ}$ C [30 - 90%RH]
Storage Temperature	-20 - 70 $^{\circ}$ C [10% - 90%RH]
Cooling	Temperature controlled fan
Weight [750W / 1.5kW]	<5.1kg / <8.2kg
Dimensions [750W]	215 x 470 x 44 $\frac{1}{2}$ mm [W x D x H]
Dimensions [1.5kW]	215 x 470 x 89mm [W x D x H]
Remote Sense Compensation	1V to 5V dependent 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 & temperature.

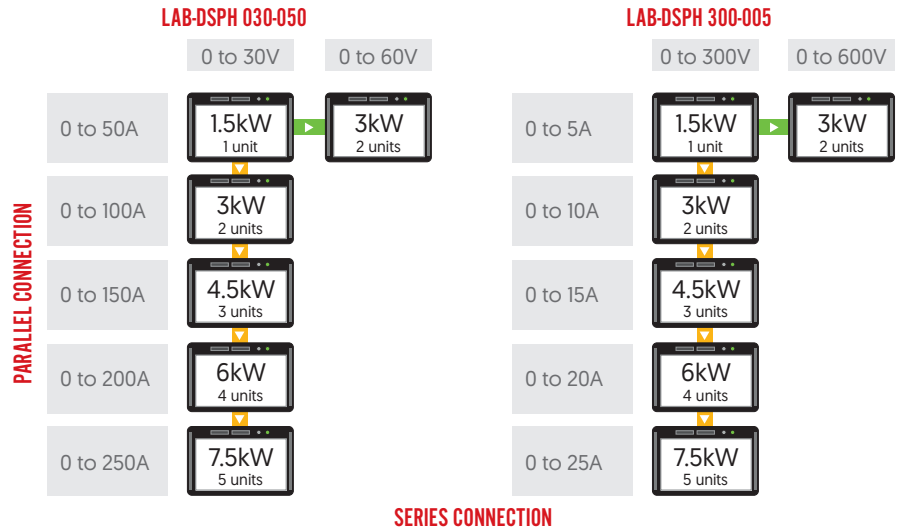


MASTER-SLAVE CAPABILITY

Up to 5 LAB-DSPH systems can be arranged in parallel, or 2 in series connection (limited to 600V maximum output). Each PSU is able to operate independently, so that systems can be reconfigured, expanded or broken up as needs dictate.

The modular approach is useful for test houses and research labs who regularly test different sized power devices. Individual units can be used for the day to day testing of multiple small devices, then grouped together for larger projects.

The diagram shows the possible configurations with 30V and 300V 1.5kW systems.



OPTIONS

CODE	DESCRIPTION
/GPIB*	Integrated GPIB interface in addition to standard RS485 and analogue
/HR-GPIB*	Unit built with 5 digit high resolution display and GPIB interface
/LAN*	Integrated LAN interface in addition to standard RS485 and analogue
/HR-LAN*	Unit built with 5 digit high resolution display and LAN interface
/ATI	Isolated 0-5V / 0-10V analogue interface for setting and measurement functions
/DSP-OPT-PAR	External parallel board to connect up to five units.
/DSP-OPT-SER	External serial board to connect two units
/19IUH	Blank panel to mount 750W [IUH] units into a 19" rack.
/19HU2	Rackmounting parts for 2 x 750W units
/AC2M	2m AC input cable for 1500W / 3000W units

*GPIB and LAN are only available as separate interfaces and can not be combined

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WE ARE
POSITIVE
PEOPLE
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ETPS engineer electronic power supply and testing systems. Our problem solving skills provide the spark of innovation to some of the world's leading technology brands.



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