

ELP-33500F

HIGH CURRENT HIGH POWER DC LOAD



POSITIVE PROBLEM SOLVING **+ =**

With a high power capability and wide current range this feature laden series of electronic loads are suitable for many applications.

When working with a DC source that requires low currents to be sunk the load's dual ranges allow for high degree of resolution and accuracy. Constant current, resistance, voltage and power modes are all provided as standard. When operated in CC or CP modes the loads provide true dynamic functionality. This enables real world pulsing loads to be accurately simulated. Dual ranges are provided for the current rise and fall times.

- + CC, CR, CV, CP, Dynamic & Short Mode**
- + OCP, OPP & Short Test Functions**
- + IEEE488.2 & RS-232 Interfaces**
- + Scope Output for Load Current**

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FURTHER DETAILS

Slew rates as slow as 16mA per microsecond can be set on some models while others allow fast changes of up to 30A per microsecond to be programmed.

A BNC connector is provided on the rear panel to allow the load to follow an external signal such as that created by a waveform generator. An isolated BNC connector is also provided on the front panel to monitor the actual load current.

Front panel control and display along with RS-232C and GPIB interfaces are provided for remote control and measurement. To simplify test procedures all units have 150 sets store/ recall memory. The simultaneous display of V, I & W values provides real time monitoring of UUT.



SELECTION TABLE

Part Number	Maximum Power	Maximum Voltage	Current Range	Weight	Dimensions [H × W × D]
ELP-33521F	2400W	60VDC	0 - 480A	72.8kg	889 × 596 × 600mm
ELP-33511F	3600W	60VDC	0 - 240A	81.2kg	889 × 596 × 600mm
ELP-33531F	3600W	60VDC	0 - 480A	81.2kg	889 × 596 × 600mm
ELP-33541F	3600W	60VDC	0 - 720A	81.2kg	889 × 596 × 600mm
ELP-33512F	5400W	60VDC	0 - 360A	104.8kg	889 × 596 × 600mm
ELP-33532F	5400W	60VDC	0 - 720A	104.8kg	889 × 596 × 600mm
ELP-33542F	5400W	60VDC	0 - 1000A	104.8kg	889 × 596 × 600mm
ELP-33513F	7200W	60VDC	0 - 480A	161.4kg	1556 × 596 × 600mm
ELP-33514F	9000W	60VDC	0 - 600A	185kg	1556 × 596 × 600mm
ELP-33515F	10800W	60VDC	0 - 720A	208.6kg	1556 × 596 × 600mm
ELP-33516F	12600W	60VDC	0 - 840A	232.2kg	1556 × 596 × 600mm
ELP-33517F	14400W	60VDC	0 - 960A	268.8kg	1778 × 596 × 600mm

Note: all units shipped in a wheeled cabinet

OPTIONS

CODE	DESCRIPTION
/0001	1m IEEE488.2 cable
/0002	2m IEEE488.2 cable
/0003	2m RS-232 cable
/9931	Remote controller
/DSK	Disable short test function
/LT	Unit fitted with IEEE488.2 (GPIB) interface card
/RS232	Unit fitted with RS-232 interface card
/LT+RS232	Unit fitted with IEEE488.2 and RS-232 combination interface card
/USB	Unit fitted with USB interface card
/LAN	Unit fitted with Ethernet interface card
/9923	Programmable current waveform generator

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

	ELP-33521F	ELP-33511F	ELP-33531F	ELP-33541F	ELP-33512F	ELP-33532F
Load ON/OFF Voltage	Load ON: 0.1 - 25V [range], 0.1V [resolution], 1% of setting + 0.25V [accuracy];			Load OFF: 0 - 25V [range]		
Min. Operation Voltage	0.7V at 480A	0.6V at 240A	0.7V at 480A	0.7A at 720A	0.6V at 360A	0.7V at 720A
Short Circuit Current	480A	240A	480A	720A	360A	720A
Temp. Coefficient	100ppm/ °C [typical]					
Power Consumption	200W max	200W max	200W max	200W max	300W max	300W max
Operating Temperature	0 to 40°C, all specification apply for 25°C ±5°C					
Over Power Protection	≈ 2520W	≈ 3780W	≈ 3780W	≈ 3780W	≈ 5670W	≈ 5670W
Over Current Protection	≈ 504A	≈ 252A	≈ 504A	≈ 756A	≈ 378A	≈ 756A
Over Voltage Protection	≈ 63V	≈ 63V	≈ 63V	≈ 63V	≈ 63V	≈ 63V
Over Temp. Protection	Yes (approximately 85°C)					

CC MODE

Range 1* [Resolution]	0 - 48A [0.8mA]	0 - 24A [0.4mA]	0 - 48A [0.8mA]	0 - 72A [1.2mA]	0 - 36A [0.6mA]	0 - 72A [1.2mA]
Range 2* [Resolution]	48 - 480A [8mA]	24 - 240A [4mA]	48 - 480A [8mA]	72 - 720A [12mA]	36 - 360A [6mA]	72 - 720A [12mA]
Accuracy	± 0.1% of [setting + range]					

*The range is automatically or forcing to range 2 only in CC mode

CR MODE

Range 1	0.002Ω - 0.125Ω	0.0041Ω - 0.25Ω	0.002Ω - 0.125Ω	0.00138Ω - 0.0833Ω	0.0027Ω - 0.167Ω	0.00138Ω - 0.0833Ω
Range 2	0.125 - 7.5kΩ	0.25 - 15kΩ	0.125 - 7.5kΩ	0.0833 - 5kΩ	0.167 - 10kΩ	0.0833 - 5kΩ
Resolution [R1 / R2]	0.002mΩ / 0.1333mS	0.0041mΩ / 0.066mS	0.002mΩ / 0.133mS	0.00138mΩ / 0.2mS	0.0028mΩ / 0.1mS	0.0028mΩ / 0.1mS
Accuracy	± 0.2% of [setting + range]					

CV MODE

Range 1 / 2	0 - 6V / 6 - 60V
Range 1 / 2 Resolution	0.1mV / 1mV
Accuracy	± 0.05% of [setting + range]

CP MODE

Range 1 [Resolution]	0 - 240W [4mW]	0 - 360W [6mW]	0 - 360W [6mW]	0 - 360W [6mW]	0 - 540W [9mW]	0 - 540W [9mW]
Range 2 [Resolution]	240 - 2.4kW [40mW]	360 - 3.6kW [60mW]	360 - 3.6kW [60mW]	360 - 3.6kW [60mW]	540-5.4kW [90mW]	540-5.4kW [90mW]
Accuracy	± 0.5% of [setting + range]					

5-DIGIT VOLTAGE

Range [R1 / R2]	0 - 6V / 6 - 60V
Resolution [R1 / R2]	0.1mV / 1mV
Accuracy	± 0.025% + 0.025% of [reading + range]

5-DIGIT AMMETER

Range 1/2	0 - 48A / 48 - 480A	0 - 24A / 24 - 240A	0 - 48A / 48 - 480A	0 - 72A / 72 - 720A	0 - 36A / 36 - 360A	0 - 72A / 72 - 720A
Range 1/2 Resolution	0.8mA / 8mA	0.4mA / 4mA	0.8mA / 8mA	1.2mA / 12mA	0.6mA / 6mA	1.2mA / 12mA
Accuracy	± 0.1% of [reading + range]					

5-DIGIT POWERMETER

Range [Resolution]	0 - 2400W [0.04W]	0 - 2400W [0.04W]	0 - 3600W [0.06W]	0 - 3600W [0.06W]	0 - 5400W [0.09W]	0 - 5400W [0.09W]
Accuracy	± 0.125% of [reading + range]					

DYNAMIC

Thigh & Tlow	0.050 - 9.999 / 99.99 / 999.9 / 9999mS					
Resolution	0.001 / 0.01 / 0.1 / 1mS					
Accuracy	1μS / 10μS / 100μS / 1mS + 50ppm					
Slew Rate 1	0.032A - 2A / μS	0.016A - 1A / μS	0.016A - 1A / μS	0.048A - 3A / μS	0.024A - 1.5A / μS	0.048A - 3A / μS
Slew Rate 2	0.32A - 20A / μS	0.16A - 10A / μS	0.16A - 10A / μS	0.48A - 30A / μS	0.24A - 15A / μS	0.48A - 30A / μS
Resolution	0.008 / 0.08A / μS	0.004 / 0.04A / μS	0.004 / 0.04A / μS	0.012 / 0.12A / μS	0.006 / 0.06A / μS	0.012 / 0.12A / μS
Accuracy / Min. Rise Time	[5% of setting] ± 10μS / 24μS [typical]					
Current Range	48A / 480A	24A / 240A	48A / 480A	72A / 720A	36A / 360A	72A / 720A
Current Resolution	0.8mA / 8mA	0.4mA / 4mA	0.8mA / 8mA	1.2mA / 12mA	0.6mA / 6mA	1.2mA / 12mA
Current Accuracy	± 0.1% of [reading + range]					

TECHNICAL DATA

	ELP-33542F	ELP-33513F	ELP-33514F	ELP-33515F	ELP-33516F	ELP-33517F
Load ON/OFF Voltage	Load ON: 0.1 - 25V [range], 0.1V [resolution], 1% of setting + 0.25V [accuracy]; Load OFF: 0 - 25V [range]					
Min. Operation Voltage	0.7V at 1000A	0.6V at 480A	0.6V at 600A	0.6A at 720A	0.6V at 840A	0.6V at 960A
Short Circuit Current	1000.2A	480A	600A	720A	840A	960A
Temp. Coefficient	100ppm/ °C [typical]					
Power Consumption	300W max	400W max	500W max	600W max	700W max	800W max
Operating Temperature	0 to 40°C, all specifications apply for 25°C ±5°C					
Over Power Protection	≈ 5670W	≈ 7560W	≈ 9450W	≈ 11340W	≈ 13230W	≈ 15120W
Over Current Protection	≈ 1050A	≈ 504A	≈ 630A	≈ 756A	≈ 882A	≈ 1008A
Over Voltage Protection	≈ 63V	≈ 63V	≈ 63V	≈ 63V	≈ 63V	≈ 63V
Over Temp. Protection	Yes [approximately 85°C]					

CC MODE

Range 1* [Resolution]	0 - 100.2A [1.67mA]	0 - 48A [0.8mA]	0 - 60A [1mA]	0 - 72A [1.2mA]	0 - 84A [1.4mA]	0 - 96A [1.6mA]
Range 2* [Resolution]	100.2-1000.2A [16.7mA]	48 - 480A [8mA]	60 - 600A [10mA]	72 - 720A [12mA]	84 - 840A [14mA]	96 - 960A [16mA]
Accuracy	± 0.1% of [setting + range]					

*The range is automatically or forcing to range 2 only in CC mode

CR MODE

Range 1	0.001Ω - 0.06Ω	0.0041Ω - 0.25Ω	0.0017Ω - 0.1Ω	0.00138Ω - 0.083Ω	0.0012Ω - 0.0714Ω	0.001Ω - 0.0625Ω
Range 2	0.06 - 3.6kΩ	0.125 - 7.5kΩ	0.1 - 6kΩ	0.083 - 5kΩ	0.0714 - 4.284kΩ	0.0625 - 3.750kΩ
Resolution [R1 / R2]	0.001mΩ / 0.277mS	0.002mΩ / 1.13mS	0.0016mΩ / 0.016mS	0.0014mΩ / 0.2mS	0.0003mΩ / 0.23mS	0.001mΩ / 0.267mS
Accuracy	± 0.2% of [setting + range]					

CV MODE

Range 1 / 2	0 - 6V / 6 - 60V
Range 1 / 2 Resolution	0.1mV / 1mV
Accuracy	± 0.05% of [setting + range]

CP MODE

Range 1 [Resolution]	0 - 540W [9mW]	0 - 720W [12mW]	0 - 900W [15mW]	0 - 1080W [18mW]	0 - 1260W [21mW]	0 - 1440W [24mW]
Range 2 [Resolution]	540 - 5.4kW [90mW]	720 - 7.2kW [120mW]	900 - 9kW [150mW]	1080-10.8kW[180mW]	1260-12.6kW[210mW]	1440-14.4kW[240mW]
Accuracy	± 0.5% of [setting + range]					

5-DIGIT VOLTAGE

Range [R1 / R2]	0 - 6V / 6 - 60V
Resolution [R1 / R2]	0.1mV / 1mV
Accuracy	± 0.025% + 0.025% of [reading + range]

5-DIGIT AMMETER

Range 1/2	0-100.2A/100.2-1000.2A	0 - 48A / 48 - 480A	0 - 60A / 60 - 600A	0 - 72A / 72 - 720A	0 - 84A / 84 - 840A	0 - 96A / 96 - 960A
Range 1/2 Resolution	1.67mA / 16.7mA	0.8mA / 8mA	1mA / 10mA	1.2mA / 12mA	1.4mA / 14mA	1.6mA / 16mA
Accuracy	± 0.1% of [reading + range]					

5-DIGIT POWERMETER

Range [Resolution]	0 - 5400W [0.09W]	0 - 7200W [0.12W]	0 - 9000W [0.15W]	0 - 10800W [0.18W]	0 - 12600W [0.21W]	0 - 14400W [0.24W]
Accuracy	± 0.125% of [reading + range]					

DYNAMIC

Thigh & Tlow	0.050 - 9.999 / 99.99 / 999.9 / 9999mS					
Resolution	0.001 / 0.01 / 0.1 / 1mS					
Accuracy	1μS / 10μS / 100μS / 1mS + 50ppm					
Slew Rate 1	0.0664A - 4.15A/μS	0.032A - 2A/μS	0.04A - 2.5A/μS	0.048A - 3A/μS	0.056A - 3.5A/μS	0.064A - 4A/μS
Slew Rate 2	0.664A - 41.5A/μS	0.32A - 20A/μS	0.4A - 25A/μS	0.48A - 30A/μS	0.56A - 35A/μS	0.64A - 40A/μS
Resolution	0.0166 / 0.166A /μS	0.008 / 0.08A /μS	0.01 / 0.1A /μS	0.012 / 0.12A /μS	0.014 / 0.14A /μS	0.016 / 0.16A /μS
Accuracy / Min. Rise Time	[5% of setting] ± 10μS / 24μS [typical]					
Current Range	100.2A / 1000.2A	48A / 480A	60A / 600A	72A / 720A	84A / 840A	96A / 960A
Current Resolution	1.67mA / 16.7mA	0.8mA / 8mA	1mA / 10mA	1.2mA / 12mA	1.4mA / 14mA	1.6mA / 16mA
Current Accuracy	± 0.1% of [reading + range]					



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Tel: +44 (0) 1246 452909
Sales: 0800 612 95 75
sales@etps.co.uk
www.etps.co.uk

ETPS Ltd
Unit 14, The Bridge
Beresford Way, Chesterfield
S41 9FG



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