

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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HIGH CURRENT HIGH POWER DC LOAD

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 |

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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**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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