DC Loads

Unit 14 The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-3310D Dynamic DC Electronic Load Modules

Description

These true dynamic loads offer an incredible degree of functionality at a very reasonable cost. Constant current, resistance, voltage and power operation are provided as standard. Dual ranges for CC and CR modes enables tight resolution at the lower end. Voltage, current and power values are simultaneously shown on the 4½ digit displays. The front panel voltage amd ammeters have a 16 bit resolution and offer a high degree of accuracy. An adjustable short mode along with OCP and OPP tests are also built in. The load can be set to turn on and off at a preset voltage level making these units ideal for discharging batteries. An input for connecting an arbitrary waveform generator is provided to enable the unit to follow complex load patterns. Load currents can be viewed graphically by connecting a scope to the BNC connector on the front panel of the load. The 3310D are housed within the desktop single slot, 3302C mainframe. Alternatively the rack mounting 3300C mainframe can house up to 4 modules. Both mainframes have RS232 interfaces as standard with IEEE 488.2 optionally available. Common test values can be stored via the front panel in the non-volatile memory of the mainframe. These values can also be sequenced with time allowing frequent test procedures to be quickly implemented.

- CC, CR, CV, CP, dynamic & short mode
- Large LCD display with scope output
- 150 store/recall memory
- OCP & OPP test function
- External oscillator input
- Labview drivers

Selection Table

Part Number	Maximum Power	Maximum Voltage	Current Range	Module Weight	Dimensions (Width x Height x Depth)
ELP-3310D	150W	60VDC	0 - 30A	3.5kg	108 x 143 x 405mm
ELP-3311D	300W	60VDC	0 - 60A	3.5kg	108 x 143 x 405mm
ELP-3312D	300W	250VDC	0 - 10A	3.5kg	108 x 143 x 405mm
ELP-3314D	300W	500VDC	0 - 10A	3.5kg	108 x 143 x 405mm
ELP-3315D	75W	60VDC	0 - 15A	3.5kg	108 x 143 x 405mm

Options Table

Code	Description
/3302C	Single slot mainframe with RS232 (separate summary available)
/3302C-GPIB	Single slot mainframe with RS232 & IEEE 488.2 (see separate summary)
/3300C	4 slot mainframe with RS232 (separate summary available)
/3300C-GPIB	4 slot mainframe with RS232 & IEEE 488.2 (separate summary available)
/DSK	Disable short test function key
/0001	1m IEEE488.2 cable
/0002	2m IEEE488.2 cable
/0003	2m RS232 cable
/9931	Remote controller

made for experts

sales@etps.co.uk
0800 612 95 75

Technical Data

	ELP-3310D	ELP-3311D	ELP-3312D	ELP-3314D	ELP-3315D
Over Power Protection	≈ 157.5 W	≈ 315W	≈ 315W	≈ 315W	≈ 78.75W
Over Current Protection	≈ 31.5 A	≈ 63A	≈ 10.5A	≈ 10.5A	≈ 15.75A
Over Voltage Protection	≈ 63 V	≈ 63V	≈ 262.5V	≈ 525V	≈ 63V
Over Temp. Protection	≈ 85°C				
CC Mode					
Range 1	0 - 3A	0 - 6A	0 - 1A	0 - 1A	0 - 1.5A
Range 1 Resolution	0.8mA	1.6mA	0.268mA	0.268mA	0.4mA
Range 2	0 - 30A	0 - 60A	0 - 10A	0 - 10A	0 - 15A
Range 2 Resolution	8.0mA	16mA	2.68mA	2.68mA	4.0mA
Accuracy	± 0.2% of (setting + range)				
CR Mode					
Range 1	0.1068 - 2Ω	0.0534 - 1Ω	1.3334 - 25Ω	2.6668 - 50Ω	0.2134 - 4Ω
Range 1 Resolution	0.534mΩ	0.267mΩ	6.677mΩ	13.334mΩ	1.067mΩ
Range 2	2 - 7.5KΩ	1Ω - 3.75KΩ	25Ω - 18.75KΩ	50Ω - 18.75KΩ	4Ω - 15KΩ
Range 2 Resolution	0.133mS	0.266mS	10.66µS	5.333µS	66.66mS
Accuracy	± 0.2% of (setting + range)				
CV Mode					
Range	0 - 60V	0 - 60V	0 - 250V	0 - 500V	0 - 60V
Resolution	0.016V	0.016V	0.06667V	0.1334V	0.016V
Accuracy	± 0.1% of (setting + range)				
CP Mode					
Range	0 - 150W	0 - 300W	0 - 300W	0 - 300W	0 - 75W
Resolution	0.04W	0.08W	0.08W	0.08W	0.02W
Accuracy	± 0.5% of (setting + range)				
Dynamic Operation					
Thigh & Tlow	50µSec - 9.999Sec				
Slew Rate 1	2.0 - 125mA/µsec	4 - 250mA/µsec	0.8 - 50mA/µsec	0.8 - 50mA/µsec	1.0 - 62.5mA/µsec
Slew Rate 2	20mA - 1.25A/µsec	40mA - 2.5A/µsec	8mA - 0.5A/µsec	8 - 500mA/µsec	10mA - 0.625A/µsec
Accuracy	± (10% of setting) ± 10µs				
Voltage Readback					
Range 1	0 - 15.0V	0 - 15.0V	0 - 30.0V	0 - 60V	0 - 15.0V
Range 1 Resolution	0.0005V	0.0005V	0.001V	0.002V	0.0005V
Range 2	60.0V	60.0V	250.0V	500.0V	60.0V
Range 2 Resolution	0.002V	0.002V	0.01V	0.02V	0.002V
Accuracy	± 0.05% of (reading + range)				
Current Readback					
Range 1	0 - 3.0A	0 - 6.0A	0 - 1.2A	0 - 1.2A	0 - 1.5A
Range 1 Resolution	0.0001A	0.0002A	0.00004A	0.00004A	0.00005A
Range 2	30.0A	60.0A	12.0A	12A	15.0A
Range 2 Resolution	0.001A	0.002A	0.0004A	0.0004A	0.0005A
Accuracy	± 0.2% of (reading + range)				
Other					
Current Monitor Output	Full scale 10V (Isolated with load module)				
Current Program Input	Full scale 10V (Isolated with other load module)				
Programmable Short	Built in				
Vmin to sink full current	600mV for 30A	700mV for 60A	800mV for 10A	5V for 10A	500mV for 15A
Load On Voltage	0.1 - 25V	0.1 - 25V	0.2 - 50V	0.4 - 100V	0.1 - 25V
Load Off Voltage	0 - 25V	0 - 25V	0 - 50V	0 - 100V	0 - 25V
Max. Short Resistance	0.02Ω	0.00833Ω	0.08Ω	0.5Ω	0.02Ω
Max. Short Current	30A	60A	10A	10A	15A
I monitor (Isolated)	3A/V	6A/V	1A/V	1A/V	1.5A/V

made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-3320

Static DC Electronic Load Modules

Description

The 3320 series is the ideal low cost solution when only adjustable constant current operation is required. The units feature dual ranges thus providing a tight setting resolution in the lower range. Sink values can be preset before activating the load's input. The current slew rate can be adjusted in 3 steps with the fastest fall times possible in the higher current range. Operating the low resistance short mode allows the user to read the actual short current up to the Electronic Load's maximum rating. An isolated current monitor allows the load current to be viewed on an oscilloscope. Up to 4 modules from this series can be housed in the ELP-3301A mainframe. if only a single module is required then the desktop 3302C mainframe should be chosen.

- Adjustable current slew rate control
- Constant current & short modes
- Dual 4½ digit displays for V & I
- Over V, W & °C protection
- Up to 500VDC operation
- Output for oscilloscope

Selection Table

Part Number	Maximum Power	Maximum Voltage	Current Range	Module Weight	Dimensions (Width x Height x Depth)
ELP-3320	150W	60VDC	0 - 30A	3.5kg	108 x 143 x 405mm
ELP-3321	300W	60VDC	0 - 60A	3.5kg	108 x 143 x 405mm
ELP-3322	300W	250VDC	0 - 10A	3.5kg	108 x 143 x 405mm
ELP-3324	200W	500VDC	0 - 5A	3.5kg	108 x 143 x 405mm
ELP-3325	75W	60VDC	0 - 15A	3.5kg	108 x 143 x 405mm

Technical Data & Options Table Overleaf

made for experts

sales@etps.co.uk
0800 612 95 75

ELP-3320 Static DC Electronic Load Modules

Technical Data

	ELP-3320	ELP-3321	ELP-3322	ELP-3324	ELP-3325
CC Mode					
Range 1	0 - 3A	0 - 6A	0 - 1A	0 - 0.5A	0 - 1.5A
Range 1 Resolution	0.75mA	1.5mA	0.25mA	0.125mA	0.75mA
Range 2	0 - 30A	0 - 60A	0 - 10A	0 - 5A	0 - 15A
Range 2 Resolution	7.5mA	15mA	2.5mA	1.25mA	7.5mA
Accuracy	± 0.2% of (setting + range)				
Slew Rate					
Fast	50/500mA/µS	0.1/1A/µS	16/160mA/µS	10/100mA/µS	30/300mA/µS
Medium	30/300mA/µS	60/600mA/µS	10/100mA/µS	6/60mA/µS	10/100mA/µS
Slow	10/100mA/µS	20/200mA/µS	3.3/33mA/µS	0.83/8.33mA/µS	2.5/25mA/µS
4½ DVM					
Range 1	20V	20V	20V	200V	20V
Range 1 Resolution	0.001V	0.001V	0.001V	0.01V	0.001V
Range 2	60.00V	60.00V	250.0V	500.0V	60.00V
Range 2 Resolution	0.01V	0.01V	0.01V	0.1V	0.01V
Accuracy	± 0.05% of reading (+ 2 count)				
4½ DAM					
Range	30.00A	60.00A	10.00A	5.00A	15.00A
Resolution	0.01A	0.01A	0.001A	0.001A	0.001A
Accuracy	± 0.2% of reading (+ 2 count)				
Short Ω	0.03Ω	0.02Ω	0.04Ω	0.12Ω	0.08Ω
Amp Monitor	3A/V	6A/V	1A/V	0.5A/V	1.5A/V
Accuracy	± (2% + 5mA)	± (2% + 10mA)	± (2% + 2mA)	± (2% + 2mA)	± (2% + 5mA)
Cooling	Fan cooled				

Options Table

Code	Description
/VCS	Add Vsense control switch for low voltage operation
/DSK	Disable short key function for parallel or battery life testing
/3301A	4 slot mainframe (separate summary available)
/3302C	Single slot mainframe with RS232 (separate summary available)
/3302C-GPIB	Single slot mainframe with RS232 & GPII(separate summary available)
/9931	Remote controller
/0001	1m IEEE488.2 cable
/0002	2m IEEE488.2 cable
/0003	2m RS232 cable

Single slot chassis
ELP-3302C

Four slot chassis
ELP-3301A

made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-3330A Dual Channel DC Electronic Load

Description

The 3330A series provides 2 independently adjustable load channels in one module. Each module in this range has CC, CR & CV operating modes along with a short test function. Dynamic operation is possible allowing the load to switch between 2 current levels. The slew rate along with the time spent at the higher and lower load levels can be adjusted. Limits can be set to flag GO/NG indication making these units ideal for batch and production testing as well as general laboratory work. Remote sense capability is also provided to counter voltage drops in the load lines. These dual channel load modules are operated from within single or 4 slot mainframes. A fully populated 3300C takes only 4U of rack space and allows up to 8 channels to be simultaneously loaded. RS232 is standard for both the 3300C and 3302C mainframes. IEEE 488.2 (GPIB) is optionally available. LabVIEW drivers are available and operate over both interfaces.

- CC, CR, CV, dynamic & short mode
- Positive & negative channels
- Dual 4½ digit V & I display
- Remote sense

Selection Table

Part Number	Channel A Power	Channel A Voltage	Channel A Current	Channel B Power	Channel B Voltage	Channel B Current
ELP-3330A	250W	+60VDC	0 - 50A	50W	+60VDC	0 - 5A
ELP-3331A	250W	+60VDC	0 - 50A	50W	-60VDC	0 - 5A
ELP-3332A	75W	+60VDC	0 - 5A	75W	+60VDC	0 - 5A
ELP-3333A	75W	+60VDC	0 - 5A	75W	-60VDC	0 - 5A
ELP-3334A	75W	-60VDC	0 - 5A	75W	-60VDC	0 - 5A

Options Table

Code	Description
/3302C	Single slot mainframe with RS232 (separate summary available)
/3302C-GPIB	Single slot mainframe with RS232 & IEEE 488.2 (see separate summary)
/3300C	4 slot mainframe with RS232 (separate summary available)
/3300C-GPIB	4 slot mainframe with RS232 & IEEE 488.2 (separate summary available)
/DSK	Disable short test function key
/0001	1m IEEE488.2 cable
/0002	2m IEEE488.2 cable
/0003	2m RS232 cable
/9931	Remote controller

made for experts

sales@etps.co.uk
0800 612 95 75

Technical Data

	ELP-3330A	ELP-3331A	ELP-3332A	ELP-3333A	ELP-3334A
CC Mode (Channel A)					
Range 1	0 - 0.5A	0 - 0.5A	0 - 0.5A	0 - 0.5A	0 - 0.5A
Range 1 Resolution	1.33mA	1.33mA	0.133mA	0.133mA	0.133mA
Range 2	0 - 50A	0 - 50A	0 - 5A	0 - 5A	0 - 5A
Range 2 Resolution	13.3mA	13.3mA	1.33mA	1.33mA	1.33mA
CC Mode (Channel B)					
Range 1	0 - 5A	0 - 0.5A	0 - 0.5A	0 - 0.5A	0 - 0.5A
Range 1 Resolution	0.133mA	0.133mA	0.133mA	0.133mA	0.133mA
Range 2	0 - 5A	0 - 5A	0 - 5A	0 - 5A	0 - 5A
Range 2 Resolution	1.33mA	1.33mA	1.33mA	1.33mA	1.33mA
Accuracy	± 0.2% of (setting + range)				
CR Mode (Channel A)					
Range 1	0.04Ω - 1.2Ω	0.04Ω - 1.2Ω	0.4Ω - 12Ω	0.4Ω - 12Ω	0.4Ω - 12Ω
Range 1 Resolution	0.32mΩ	0.32mΩ	3.2mΩ	3.2mΩ	3.2mΩ
Range 2	4.5KΩ	4.5KΩ	45KΩ	45KΩ	45KΩ
Range 2 Resolution	0.22mS	0.22mS	0.022mS	0.022mS	0.022mS
CR Mode (Channel B)					
Range 1	0.4Ω - 12Ω	0.4Ω - 12Ω	0.4Ω - 12Ω	0.4Ω - 12Ω	0.4Ω - 12Ω
Range 1 Resolution	3.2mΩ	3.2mΩ	3.2mΩ	3.2mΩ	3.2mΩ
Range 2	45KΩ	45KΩ	45KΩ	45KΩ	45KΩ
Range 2 Resolution	0.022mS	0.022mS	0.022mS	0.022mS	0.022mS
Accuracy	± 0.2% of (setting + range)				
CV Mode					
Range	2 - 60V				
Resolution	16mV				
Accuracy	± 0.2% of (setting + range)				
Dynamic (Channel A)					
Slew Rate 1	4 - 200mA/µS	0.4 - 200mA/µS	0.4 - 20mA/µS	0.4 - 20mA/µS	0.4 - 20mA/µS
Slew Rate 2	40 - 2000mA/µS	40 - 2000mA/µS	4 - 200mA/µS	4 - 200mA/µS	4 - 200mA/µS
Dynamic (Channel B)					
Slew Rate 1	0.4 - 20mA/µS	0.4 - 20mA/µS	0.4 - 20mA/µS	0.4 - 20mA/µS	0.4 - 20mA/µS
Slew Rate 2	4 - 200mA/µS	4 - 200mA/µS	4 - 200mA/µS	4 - 200mA/µS	4 - 200mA/µS
Thigh & Tlow	50µSec - 9.999Sec				
4½ DVM					
Range	15V/60.00V				
Resolution	0.001mV/0.01V				
Accuracy	± 0.05% of (reading + range)				
4½ DAM (Channel A)					
Range 1	15A	15A	1.5A	1.5A	1.5A
Range 1 Resolution	1mA	1mA	0.1mA	0.1mA	0.1mA
Range 2	50A	50A	5A	5A	5A
Range 2 Resolution	10mA	10mA	1mA	1mA	1mA
4½ DAM (Channel B)					
Range 1	1.5A	1.5A	1.5A	1.5A	1.5A
Range 1 Resolution	0.1mA	0.1mA	0.1mA	0.1mA	0.1mA
Range 2	5A	5A	5A	5A	5A
Range 2 Resolution	1mA	1mA	1mA	1mA	1mA
Accuracy	± 0.2% of (reading + range)				
Load ON/OFF voltage	Load ON voltage: 0.1 - 25.0V Load OFF voltage: 0 - 25V				
Weight/Dimensions	3.5kg/108 x 143 x 405mm (W x H x D)				

made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-3335A

Dual DC Electronic Load

Description

This Electronic Load offers high current sink capability of up to 100A. These units contain both a 500W and a 50W Load in one convenient module. Constant current, resistance and voltage operating modes are provided. The load can also be set to automatically turn on or off at a preset voltage level. The current slew rate can be adjusted for both load channels. To aid production testing to given parameters the unit is equipped with GO/NG indication. BNC outputs are provided so the load or short currents can be viewed on a scope. The 3335A is designed to be plugged into the 3300C mainframe taking 2 of the 4 slots. These mainframes have the added advantage of 150 store/recall memory function. The memory function reduces the setting time and allows common test procedures to be quickly implemented. LabVIEW drivers are also available.

- CC, CR, CV, dynamic & short mode
- Two positive & negative channels
- Over V, I, W and °C protection
- High current sink capability
- Dual 4½ digit V & I display

Selection Table

Part Number	Channel A			Channel B		
	Power	Voltage	Current	Power	Voltage	Current
ELP-3335A	500W	+60VDC	0 - 100A	50W	+60VDC	0 - 5A

Options Table

Code	Description
/3300C	4 slot mainframe with RS232 (separate summary available)
/3300C-GPIB	4 slot mainframe with RS232 & IEEE 488.2 (separate summary available)
/DSK	Disable short test function key
/0001	1m IEEE488.2 cable
/0002	2m IEEE488.2 cable
/0003	2m RS232 cable
/9931	Remote controller

made for experts

sales@etps.co.uk
0800 612 95 75

Technical Data

	ELP-3335A
CC Mode (Channel A)	
Range 1	0 - 10A
Range 1 Resolution	2.66mA
Range 2	10 - 100A
Range 2 Resolution	26.6mA
CC Mode (Channel B)	
Range 1	0 - 0.5A
Range 1 Resolution	0.133mA
Range 2	0.5 - 5A
Range 2 Resolution	1.33mA
Accuracy	± 0.2% of (setting + range)
CR Mode (Channel A)	
Range 1	0.02Ω - 0.6KΩ
Range 1 Resolution	0.16mΩ
Range 2	0.6 - 2.25KΩ
Range 2 Resolution	0.44mS
CR Mode (Channel B)	
Range 1	0.4Ω - 12Ω
Range 1 Resolution	3.2mΩ
Range 2	12 - 45KΩ
Range 2 Resolution	0.022mS
Accuracy	± 0.2% of (setting + range)
CV Mode	
Range	2 - 60V
Resolution	16mV
Accuracy	± 0.2% of (setting + range)
Dynamic (Channel A)	
Slew Rate 1	8 - 400mA/µS
Slew Rate 2	80 - 4000mA/µS
Dynamic (Channel B)	
Slew Rate 1	0.4 - 20mA/µS
Slew Rate 2	4 - 200mA/µS
Thigh & Tlow	50µSec - 9.999Sec
4½ DVM	
Range	15V/60.00V
Resolution	0.001mV/0.01V
Accuracy	± 0.05% of (reading + range)
4½ DAM (Channel A)	
Range 1	10A
Range 1 Resolution	1mA
Range 2	100A
Range 2 Resolution	10mA
4½ DAM (Channel B)	
Range 1	0.5A
Range 1 Resolution	0.1mA
Range 2	5A
Range 2 Resolution	1mA
Accuracy	± 0.2% of (reading + range)
Load ON/OFF voltage	Load ON voltage: 0.1 - 25.0V Load OFF voltage: 0 - 25V
Weight/Dimensions	7.5kg/216 x 143 x 405mm (W x H x D)

made for experts

Unit 14, The Bridge Business Centre
Dunston Road, Chesterfield, S41 9FG
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

3300 Series

Electronic Load Mainframes

Description

Three different mainframes are available to house a variety of Plug-in Electronic Load modules. The four slot versions are built in to 19" racks enabling them to be mounted in standard cabinets. Retractable feet enable a good viewing angle for desktop use. The 3302C mainframe accepts a single load module and is ideal for the mobile engineer. The load modules simply slide in to the mainframe and are secured by a screw at the front. The user can swap modules out as required making it easy to reconfigure test systems. The advantage of the modular approach is the flexibility offered and the opportunity to expand your electronic load system as needed. A wide variety of both AC & DC electronic load modules are designed to be operated within these mainframes. A comprehensive mix of voltage and current sink ranges are possible. Identical modules can be operated in parallel allowing for higher load currents. Each mainframe has a number of built in store/recall memories to allow common test procedures to be quickly implemented from the front panel. Different load values can be sequenced and stepped with time automatically via the mainframe memory. When using computer control only one GPIB address is needed to control all the load modules in one mainframe. LabVIEW drivers are also available for both RS232 and IEEE 488.2 operation. The loads can also be controlled via a proportional 0-10V (ac or ac+dc) analogue signal.

- AC to DC Power Supply
- DC to DC converter
- DC to AC Inverter
- Power Component
- Battery Discharge
- Battery Charger

ELP-3300C

ELP-3301A

ELP-3302C

Load Module Compatibility

The 3300 series main frame accept the following load modules:

• 3310D 3311D, 3312D, 3314D, 3315D	Dynamic DC loads with CC, CR, CP, CV, up to 500VDC
• 3320, 3321, 3322, 3324, 3325	Static CC loads ranging from 75W - 300W up to 500VDC
• 3250, 3251, 3252, 3253	AC loads which can also be used to load DC sources
• 3330A, 3331A, 3332A, 3333A, 3334A	Dual channel dynamic loads with CC, CR & CV modes
• 3335A	Dual 500W & 50W dynamic DC load

Separate summaries are available which details each load module series

Selection & Options Table Overleaf

made for experts

sales@etps.co.uk
0800 612 95 75

3300 Series

Electronic Load Mainframes

Technical Data

Mainframe Models

	ELP-3300C	ELP-3301A	ELP-3302C
			
Accepted Load Modules			
Number of load modules housed	Up to four	Up to four	Single Only
Accepted Load Modules			
3310D, 3311D, 3312D, 3314D, 3315D	Yes	Yes*	Yes
3320, 3321, 3322, 3324, 3325	No	Yes	Yes**
3250, 3251, 3252, 3253	Yes**	Yes*	Yes**
3330A, 3331A, 3332A, 3333A, 3334A	Yes	Yes*	Yes
3335A	Yes	No	No
Interface Functions			
IEEE488.2 interface (listener & talker)	Yes (Option LT)	Yes (Listen Only)	Yes (Option LT)
RS232 interface	Yes	No	Yes
Master/Slave	No	Yes	No
Store/Recall memory	Yes (150 sets)	Yes (5 sets)	Yes (150 sets)
External remote control	Yes	Yes	Yes
Weight & Dimensions			
Weight	9.5kg	9.5kg	7.0kg
Dimensions (W x H x D mm)	19" x 4U x 445	19" x 4U x 445	150 x 177 x 445

*Front panel operation only, remote control is not available

**3300C mainframe has 30 memory bank, where each bank has 5 states only

Options Table

Code	Description
/LT	IEEE488.2 interface with listener and talker functions
/0001	1m IEEE488.2 cable
/0002	2m IEEE488.2 cable
/0003	2m RS232 cable
/9931	Remote recall keypad
/BP	Blank panel covering a single slot

made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-BCT

Battery Capacity Tester

Description

This range of portable battery capacity testers has been designed to simplify the service and quality control of batteries deployed in the field. The units are used to test Ni-CD, Ni-MH, Lead acid and Lithium-ion batteries. The ELP-BCT is a straightforward tester requiring no expert knowledge on the part of the user. The simple set up selects requires only the battery chemistry, the rated voltage, the discharge current and the rated capacity to be entered. Once the test is started the battery voltage and temperature along with the actual energy discharged is displayed on the front panel. The test is automatically terminated when a preset voltage according to the battery chemistry is reached. The voltage level at which the battery is disconnected can be adjusted if required. The optional RS232 interface is provided with windows software allowing a PC to control and monitor the discharge test. Test results are automatically stored in the database. Test reports with graphical analysis of voltage against temperature can be generated. The cumulative testing of a particular battery is also recorded. The results can be plotted to show battery capacity in Ampere hours (Ah) along with Watt hours (Wh) against test dates. While the standard ELP-BCT range covers the majority of testing requirements the platform is scalable enabling different voltage, current and power ranges to be provided on request.

- Ideal for testing batteries in the field
- Powered from 12VDC (AC/DC PSU also supplied)
- Computer interface option with windows software
- Suitable for Ni-Cd, Ni-MH, Li-ion & Lead Acid
- Extended temperature operation -20 to +40 °C
- Customer specific units on request

Selection Table

Part Number	Current (1A Steps)	Voltage Range	Discharge Power (max)	Dimensions (WxDxH)
ELP-BCT-150	1 - 10A	2 - 30V	150W	106 x 170 x 204mm
ELP-BCT-250	1 - 12A	2 - 30V	200W	106 x 170 x 204mm
ELP-BCT-500	1 - 24A	4 - 30V	400W	106 x 170 x 204mm
ELP-BCT-750	1 - 32A	4 - 30V	600W	260 x 150 x 330mm

Different voltage, current and power ranges are available on request. Please contact ET to discuss your requirements.

made for experts

sales@etps.co.uk
0800 612 95 75

ELP-BCT

Battery Capacity Tester

Technical Data

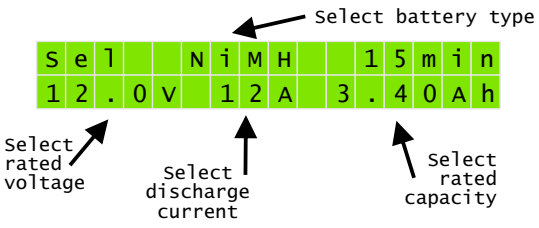
Selectable Parameters	Rated voltage, current, capacity, battery chemistry and end of discharge voltage
Cell Number Detection	Automatic and Manual
Battery Chemistry Detection	Automatic for Ni-CD/Ni-MH or manual
Accuracy	0.5% of full scale
Measured Values	Voltage, current & temperature (NTC)
Calculated Values	Ah, Wh and % of rated capacity
Operating Temperature	-20 to +40°C
Protection	Reverse polarity and over temperature
Display	LCD, 2 lines with backlight
Input Power	12VDC, AC/DC converter supplied

Options Table

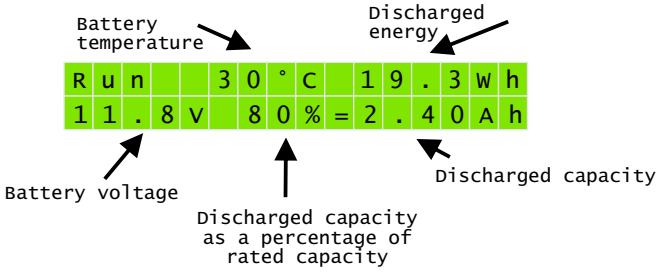
Code	Description
/LTRS232	RS232 interface & software
/16Bit	16Bit voltage measurement
/V45	45V voltage range

Front Panel & Software

Easy test set up via front panel



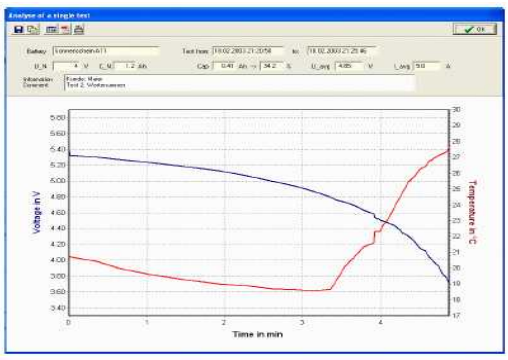
Data displayed during test



Optional computer interface & software

This allows the ELP-BCT to be controlled from a PC. All discharge tests are automatically recorded in a database. The main features are:

- Historic log of a particular battery's results
- Reviewing of test results
- Automatic data storage
- Graphical analysis
- Report printing



made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-SL DC Electronic Load

Description

The ELP-SL is a compact range of bench top Electronic Loads with power ranges between 100W and 800W. Constant current and constant resistance operating modes are provided as standard. The unit's test parameters can be preset and read from the display or interface. The dynamic option allows constant voltage and constant power operation in addition to the standard modes. The dynamic control permits the current rise time to be varied in seven steps. During CC operation the built in generators allow the user to choose between square, triangular and sine wave. The pulse width modulation can be adjusted from 10% to 90% and the frequency can be varied from 0.1Hz to 2kHz. For IEEE 488.2 operation LabVIEW drivers are available for this range.

- Optional Analogue & Computer Interfaces
- CV and CP Modes with Dynamic Option
- Constant Current & Resistance Modes
- Wide Varity of Current Limits Available
- Voltage Range up to 400Vdc

Case Sizes (WxHxD)

100W.....112x222x360mm
200W.....112x222x360mm
400W.....112x222x360mm
800W.....224x222x360mm

(all case sizes increase to 224mm wide with dynamic option)

Selection Table

Part Number	Power	Voltage	Current Limit Chart (Replace Cxx in the part number with your chosen current limit) C1	C2	C5	C10	C15	C20	C25	C30	C35	C40	C45	C50	C60	C100
ELP-SL 100-Cxx	100W	1-60Vdc		■	■	■	■									
ELP-SL 101-Cxx	100W	1-100Vdc		■	■											
ELP-SL 102-Cxx	100W	1-200Vdc	■	■												
ELP-SL 104-Cxx	100W	1-400Vdc	■													
ELP-SL 200-Cxx	200W	1-60Vdc			■	■	■	■	■	■						
ELP-SL 201-Cxx	200W	1-100Vdc		■	■	■										
ELP-SL 202-Cxx	200W	1-200Vdc	■	■	■											
ELP-SL 204-Cxx	200W	1-400Vdc	■													
ELP-SL 400-Cxx	400W	1-60Vdc				■	■	■	■	■	■	■	■	■	■	
ELP-SL 401-Cxx	400W	1-100Vdc			■	■	■	■	■	■	■	■	■			
ELP-SL 402-Cxx	400W	1-200Vdc		■	■	■	■	■	■							
ELP-SL 404-Cxx	400W	1-400Vdc	■	■												
ELP-SL 800-Cxx	800W	1-60Vdc					■	■	■	■	■	■	■	■	■	■
ELP-SL 801-Cxx	800W	1-100Vdc				■	■	■	■	■	■	■	■	■		
ELP-SL 802-Cxx	800W	1-200Vdc		■	■	■	■									
ELP-SL 804-Cxx	800W	1-400Vdc		■	■	■										

Different output ranges and application/user specific options are possible. Please contact ET to discuss your requirements.

made for experts

sales@etps.co.uk
0800 612 95 75

Options Table

Code	Description
/ATE	No front panel control or display. Analogue Interface provided as standard
/AI-5	0-5V Analogue Interface for all control and measurement functions
/AI-10	0-10V Analogue Interface for all control and measurement functions
/ATI-5	Isolated 0-5V Analogue Interface for all control and measurement functions
/ATI-10	Isolated 0-10V Analogue Interface for all control and measurement functions
/LT	IEEE 488.2 Interface with listener and talker functions
/LTRS232	RS232 Interface with listener and talker functions
/LTRS485	RS485 Interface with listener and talker functions
/LT+LTRS232	IEEE 488.2 and RS232 Interfaces with listener and talker functionality
/LT+LTRS485	IEEE 488.2 and RS485 Interfaces with listener and talker functionality
/CAN	CAN Interface with listener and talker functions
/USB	USB Interface with listener and talker functions
/ETH	Ethernet interface with listener and talker functions over a LAN
/CV	Constant voltage operation in addition to CC & CR modes
/CP	Constant power operation in addition to CC & CR modes
/Dyn-L	Dynamic functions operable via the front panel with /CV & /CP operation
/Dyn-B	Dynamic function operable via the optional computer interface(s) with /CV & /CP operation
/Dyn-LB	Dynamic functions operable via both front panel and BUS with /CV & /CP operation
/0V	Built in power supply to run full load from zero volts
/OR	Built in power relay for true short circuit
/6U	Unit built as eurocassette
/TG	Carrying handle
/AF	Adjustable foot
/10POT	Locking potentiometer with scale
/ECT	19 x 6U frame for up to 4 desktop units
/ECS6	19 x 6U rack for up to 4 eurocassettes
/EP21	6U x 21HP gray blanking plate
/EP42	6U x 42HP gray blanking plate

Technical Data

Input voltage	115/230VAC ± 15%
Input frequency	47-63Hz
Isolation I/P to O/P	3000 VAC
Isolation class	1
Safety	EN 60950
Emission	EN 61000-6-3
Immunity	EN 61000-6-1
Current rise	>0.5A/µs
Regulation Voltage mode	<0.4%
Regulation Current mode	<0.4%
Regulation Power mode	<2%
Regulation Resistive mode	<2%
Response time	typ. <100µs
Voltage monitor	<0.4%
Current monitor	<0.4%
Display	3.5 digits for V and I
Protection	OC / OV / OT / OP
Analogue interface	0-5V (10V)
Analogue isolated interface	0-5V (10V)
Interface RS232/RS485/USB	12 Bit
Interface IEEE488.2/CAN	12 Bit
Operating temperature	0-50 °C
Operating humidity	0-90% (non condensing)
Power derating 50-70 °C	-2%/ °C
Cooling	internal forced air front to back
Storage temperature	-45 to + 85 °C
Storage humidity	0-95% (non condensing)
Vibration	10-55Hz / 1min/2G XYZ
Shock	Less than 20 G

made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-SLM Rackmounting DC Loads

Description

The ELP-SLM Electronic Load is based on an extremely flexible modular design offering a wide variety of inputs at different power levels. The units are built into 19" racks. Constant current and constant resistance modes are provided as standard. For extra safety and comfort the current and resistance values can be preset via the 10 turn potentiometers while in stand by mode before applying to UUT. The preset values can be read from the separate 3½ digit displays for voltage and current. Extensive safety features include over power, over current, over voltage, over temperature and reverse polarity. All control and measurement functions are possible through the optional analogue and computer interfaces. For completely automated test systems the units can be built without front panel control or displays.

- Optional Analogue & Computer Interfaces
- CV and CP Modes with Dynamic Option
- Constant Current & Resistance Modes
- Wide Varity of Current Limits Available
- Voltage Range up to 400Vdc

Technical Data

Input voltage	115/230VAC ± 15%
Input frequency	47-63Hz
Isolation I/P to O/P	3000 VAC
Isolation class	1
Safety	EN 60950
Emission	EN 61000-6-3
Immunity	EN 61000-6-1
Current rise	>0.5A/µs
Regulation voltage mode	<0.4%
Regulation current mode	<0.4%
Regulation power mode	<2%
Regulation resistive mode	<2%
Response time	typ. <100µs
Voltage monitor	<0.4%
Current monitor	<0.4%
Display	3.5 digits for V and I
Protection	OC / OV / OT / OP
Analogue interface	0-5V (10V)
Analogue isolated interface	0-5V (10V)
Interface RS232/RS485/USB	12 Bit
Interface IEEE488.2/CAN	12 Bit
Operating temperature	0-50°C
Operating humidity	0-90% (non condensing)
Power derating 50-70°C	-2%/°C
Cooling	internal forced air front to back
Storage temperature	-45 to + 85°C
Storage humidity	0-95% (non condensing)
Vibration	10-55Hz / 1min/2G XYZ
Shock	Less than 20 G

Selection and Options Table Overleaf

Different output ranges and application/user specific options are possible. Please contact ET to discuss your requirements.

made for experts

sales@etps.co.uk
0800 612 95 75

Selection Table

Part Number	Power	Voltage	Current Limit Chart (Replace Cxx in the part number with your chosen current limit) C5	C10	C15	C25	C50	C75	C100	C150
ELP-SLM 10-60-Cxx	1000W	1-60Vdc				■	■	■	■	
ELP-SLM 10-100-Cxx	1000W	1-100Vdc				■	■	■		
ELP-SLM 10-200-Cxx	1000W	1-200Vdc		■	■	■	■			
ELP-SLM 10-400-Cxx	1000W	1-400Vdc	■	■	■					
ELP-SLM 15-60-Cxx	1500W	1-60Vdc				■	■	■	■	
ELP-SLM 15-100-Cxx	1500W	1-100Vdc				■	■	■		
ELP-SLM 15-200-Cxx	1500W	1-200Vdc		■	■	■	■			
ELP-SLM 15-400-Cxx	1500W	1-400Vdc	■	■	■					
ELP-SLM 20-60-Cxx	2000W	1-60Vdc					■	■	■	■
ELP-SLM 20-100-Cxx	2000W	1-100Vdc					■	■	■	
ELP-SLM 20-200-Cxx	2000W	1-200Vdc				■	■	■		
ELP-SLM 20-400-Cxx	2000W	1-400Vdc		■	■	■	■			
ELP-SLM 30-100-Cxx	3000W	1-100Vdc					■	■	■	
ELP-SLM 30-200-Cxx	3000W	1-200Vdc				■	■	■		
ELP-SLM 30-400-Cxx	3000W	1-400Vdc		■	■	■	■			
ELP-SLM 40-100-Cxx	4000W	1-100Vdc					■	■	■	
ELP-SLM 40-200-Cxx	4000W	1-200Vdc			■	■	■	■		
ELP-SLM 40-400-Cxx	4000W	1-400Vdc		■	■	■	■			
ELP-SLM 50-100-Cxx	5000W	1-100Vdc					■	■	■	
ELP-SLM 50-200-Cxx	5000W	1-200Vdc				■	■	■		
ELP-SLM 50-400-Cxx	5000W	1-400Vdc			■	■	■			
ELP-SLM 65-100-Cxx	6500W	1-100Vdc						■	■	■
ELP-SLM 65-200-Cxx	6500W	1-200Vdc					■	■		
ELP-SLM 65-400-Cxx	6500W	1-400Vdc				■	■			
ELP-SLM 80-100-Cxx	8000W	1-100Vdc							■	■
ELP-SLM 80-200-Cxx	8000W	1-200Vdc					■	■		

Non-standard units on request

Options Table

Code	Description
/ATE	No front panel control or display. Analogue Interface provided as standard
/AI-5	0-5V Analogue Interface for all control and measurement functions
/AI-10	0-10V Analogue Interface for all control and measurement functions
/ATI-5	Isolated 0-5V Analogue Interface for all control and measurement functions
/ATI-10	Isolated 0-10V Analogue Interface for all control and measurement functions
/LT	IEEE 488.2 Interface with listener and talker functions
/LTRS232	RS232 Interface with listener and talker functions
/LTRS485	RS485 Interface with listener and talker functions
/LT+LTRS232	IEEE 488.2 and RS232 Interfaces with listener and talker functionality
/LT+LTRS485	IEEE 488.2 and RS485 Interfaces with listener and talker functionality
/CAN	CAN Interface with listener and talker functions
/USB	USB Interface with listener and talker functions
/ETH	Ethernet interface with listener and talker functions over a LAN
/CV	Constant voltage operation in addition to CC & CR modes
/CP	Constant power operation in addition to CC & CR modes
/Dyn-L	Dynamic functions operable via the front panel with /CV & /CP operation
/Dyn-B	Dynamic function operable via the optional computer interface(s) with /CV & /CP operation
/Dyn-LB	Dynamic functions operable via both front panel and BUS with /CV & /CP operation
/0V	Built in power supply to run full load from zero volts
/OR	Built in power relay for true short circuit

made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-3350

High Current DC Load

Description

These high current DC Sources offer an incredible amount of functionality for the cost. The large front panel display shows voltage, current and power simultaneously. Both IEEE 488.2 and RS232 interfaces with SCPI and LabVIEW drivers are provided as standard making the ELP-3350 series ideal for system integration. The unit can be set to operate in constant current, resistance, voltage and power operating modes. True dynamic operation is available in CC & CP modes. This enables the user to simulate real world load conditions by switching between current levels and adjusting the rise and fall times. To alter the frequency and duty cycle the total time that the waveform is high and low can also be adjusted remotely or locally. An external input is provided so that the load can follow a signal from an arbitrary waveform generator. A BNC output is also available to monitor the current waveform on an external oscilloscope. The ELP-3350 series is also built with an OCP, OPP and short test function. The time that the load simulates a short circuit can be set along with the short voltage high and low levels. The actual short circuit voltage and current can be measured. The easy to use front panel memory function is ideal for quickly implementing common test procedures when the unit is used on the benchtop. A GO/NG meter check along with a programmable load on and load off voltage ensures this unit is suitable for a wide range of applications.

- CC, CR, CV, CP, dynamic & short mode
- OCP, OPP & short test functions
- IEEE488.2 & RS232 interfaces
- Automatic sense adjustment
- Scope output

Selection Table

Part Number	Maximum Power	Maximum Voltage	Maximum Current	Dimensions (Width x Height x Depth)
ELP-3356	600W	60VDC	0 - 120A	19” x 4U x 445mm
ELP-3350	1200W	60VDC	0 - 120A	19” x 4U x 445mm
ELP-3351	1800W	60VDC	0 - 120A	19” x 4U x 445mm
ELP-3352	1200W	60VDC	0 - 240A	19” x 4U x 445mm
ELP-3353	1800W	60VDC	0 - 240A	19” x 4U x 445mm
ELP-3354	1800W	60VDC	0 - 360A	19” x 4U x 445mm

Options Table

Code	Description
/0001	1m IEEE488.2 cable
/0002	2m IEEE488.2 cable
/0003	2m RS232 cable
/9931	Remote controller
/DSK	Disable short test function

made for experts

sales@etps.co.uk
0800 612 95 75

Technical Data

	ELP-3356	ELP-3350	ELP-3351	ELP-3352	ELP-3353	ELP-3354
Over Power Protection	≈ 630W	≈ 1260W	≈ 1890W	≈ 1260W	≈ 1890W	≈ 1890W
Over Current Protection	≈ 126A	≈ 126A	≈ 126A	≈ 252A	≈ 252A	≈ 378A
Over Voltage Protection	≈ 63V	≈ 63V	≈ 63V	≈ 63V	≈ 63V	≈ 63V
Over Temp. Protection	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C
CC Mode						
Range 1	0 - 12A	0 - 12A	0 - 12A	0 - 24A	0 - 24A	0 - 36A
Range 1 Resolution	3.2mA	3.2mA	3.2mA	6.4mA	6.4mA	9.6mA
Range 2	12 - 120A	12 - 120A	12 - 120A	24 - 240A	24 - 240A	36 - 360A
Range 2 Resolution	32mA	32mA	32mA	64mA	64mA	96mA
Accuracy	± 0.2% of (setting + range)					
CR Mode						
Range 1	0.0266Ω - 0.5Ω	0.0268Ω - 0.5Ω	0.0268Ω - 0.5Ω	0.0134Ω - 0.25Ω	0.0134Ω - 0.25Ω	0.0088Ω - 0.167Ω
Range 1 Resolution	0.133mΩ	0.134mΩ	0.134mΩ	0.067mΩ	0.067mΩ	0.044mS
Range 2	0.5 - 4875Ω	0.5 - 1875Ω	0.5 - 1875Ω	0.25 - 937.5Ω	0.25 - 937.5Ω	0.167 - 624.9Ω
Range 2 Resolution	0.533mS	0.533mS	0.533mS	1.066mS	1.066mS	1.6mS
Accuracy	± 0.2% of (setting + range)					
CV Mode						
Range	0 - 60V					
Resolution	0.016mV					
Accuracy	± 0.1% of (setting + range)					
CP Mode						
Range 1	0 - 600W	0 - 1200W	0 - 1800W	0 - 1200W	0 - 1800W	0 - 1800W
Range 1 Resolution	0.16W	0.32W	0.48W	0.32W	0.48W	0.48W
Accuracy	± 0.5% of (setting + range)					
4½ DVM						
Range	0 - 15.00V					
Resolution	0.001V					
Range	60.00V					
Resolution	0.01V					
Accuracy	± 0.05% of (reading + range)					
4½ DAM						
Range 1	0 - 12.000A	0 - 12.000A	0 - 12.000A	0 - 24.00A	0 - 24.00A	0 - 36.00A
Range 1 Resolution	0.001A	0.001A	0.001A	0.01A	0.01A	0.01A
Range 2	12 - 120.00A	12 - 120.00A	12 - 120.00A	24 - 240A	24 - 240A	36 - 360.0A
Range 2 Resolution	0.01A	0.01A	0.01A	0.1A	0.1A	0.1A
Accuracy	± 0.2% of (reading + range)					
Dynamic						
Slew Rate 1	8mA - 0.5A/µs	8mA - 0.5A/µs	8mA - 0.5A/µs	16mA - 1A/µs	16mA - 1A/µs	24mA - 1.5A/µs
Slew Rate 2	80mA - 5A/µs	80mA - 5A/µs	80mA - 5A/µs	160mA - 10A/µs	160mA - 10A/µs	240mA - 15A/µs
Thigh & Tlow	50µs - 9.999 sec					
Accuracy	± 10% ± 10µs					
Load ON voltage	0.1 - 25.0V, 1% of (setting & range)					
Load OFF voltage	0.1 - 25.0V, 0.05% of (setting & range)					
Max. Short Resistance	0.004Ω	0.003Ω	0.002Ω	0.002Ω	0.002Ω	0.001Ω
Imonitor (Isolated)	12A/V	12A/V	12A/V	24A/V	24A/V	36A/V
Weight	19.4kg	19.4kg	23.6kg	19.4kg	23.6kg	23.6kg

made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-3350P

High Current High Power DC Load

Description

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. 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 RS232C and GPIB interfaces are provided for remote control and measurement.

- CC, CR, CV, CP, dynamic & short mode
- OCP, OPP & short test functions
- IEEE488.2 & RS232 interfaces
- Scope output for load current

Selection Table

Part Number	Maximum Power	Maximum Voltage	Maximum Current	Dimensions (Width x Height x Depth)
ELP-33501	2400W	60VDC	0 - 240A	19" x 8U x 445mm
ELP-33511	3600W	60VDC	0 - 240A	19" x 8U x 445mm
ELP-33521	2400W	60VDC	0 - 480A	19" x 8U x 445mm
ELP-33531	3600W	60VDC	0 - 480A	19" x 8U x 445mm
ELP-33541	3600W	60VDC	0 - 720A	19" x 8U x 445mm
ELP-33512	5400W	60VDC	0 - 360A	19" x 12U x 445mm
ELP-33532	5400W	60VDC	0 - 720A	19" x 12U x 445mm
ELP-33513	7200W	60VDC	0 - 480A	19" x 16U x 445mm
ELP-33514	9000W	60VDC	0 - 600A	19" x 20U x 445mm
ELP-33515	10800W	60VDC	0 - 720A	19" x 24U x 445mm

Options Table

Code	Description
/0001	1m IEEE488.2 cable
/0002	2m IEEE488.2 cable
/0003	2m RS232 cable
/9931	Remote controller
/DSK	Disable short test function

made for experts

sales@etps.co.uk
0800 612 95 75

Technical Data

	ELP-33501	ELP-33511	ELP-33521	ELP-33531	ELP-33541
Over Power Protection	≈ 2520W	≈ 3780W	≈ 2520W	≈ 3780W	≈ 3780W
Over Current Protection	≈ 252A	≈ 252A	≈ 504A	≈ 504A	≈ 756A
Over Voltage Protection	≈ 63V	≈ 63V	≈ 63V	≈ 63V	≈ 63V
Over Temp. Protection	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C
CC Mode					
Range 1	0 - 24A	0 - 24A	0 - 48A	0 - 48A	0 - 72A
Range 1 Resolution	6.4mA	6.4mA	12.8mA	12.8mA	19.2mA
Range 2	24 - 240A	24 - 240A	48 - 480A	48 - 480A	72 - 720A
Range 2 Resolution	64mA	64mA	128mA	128mA	192mA
Accuracy	± 0.2% of (setting + range)				
CR Mode					
Range 1	0.0134Ω - 0.25Ω	0.0134Ω - 0.25Ω	0.0066Ω - 0.125Ω	0.0066Ω - 0.125Ω	0.0044Ω - 0.083Ω
Range 1 Resolution	0.067mΩ	0.067mΩ	0.033mΩ	0.033mΩ	0.022mΩ
Range 2	0.25 - 937.5Ω	0.25 - 937.5Ω	0.125 - 468.7Ω	0.125 - 468.7Ω	0.083 - 312.5Ω
Range 2 Resolution	1.066mS	1.066mS	2.133mS	2.133mS	3.2mS
Accuracy	± 0.2% of (setting + range)				
CV Mode					
Range	0 - 60V				
Resolution	0.016V				
Accuracy	± 0.1% of (setting + range)				
CP Mode					
Range 1	0 - 2400W	0 - 3600W	0 - 2400W	0 - 3600W	0 - 3600W
Range 1 Resolution	0.64W	0.96W	0.64W	0.96W	0.96W
Accuracy	± 0.5% of (setting + range)				
4½ DVM					
Range 1	0 - 15.00V				
Range 1Resolution	0.5mV				
Range 2	15.00 - 60.00V				
Range 2 Resolution	2mV				
Accuracy	± 0.05% of (reading + range)				
4½ DAM					
Range 1	0 - 24A	0 - 24A	0 - 48A	0 - 48A	0 - 72A
Range 1 Resolution	0.8mA	0.8mA	1.6mA	1.6mA	2.4mA
Range 2	24 - 240A	24 - 240A	48 - 480A	48 - 480A	72 - 720A
Range 2 Resolution	8mA	8mA	16mA	16mA	24mA
Accuracy	± 0.5% of (reading + range)				
Dynamic					
Slew Rate 1	16mA - 1A/µs	16mA - 1A/µs	32mA - 2A/µs	32mA - 2A/µs	48mA - 3A/µs
Slew Rate 2	160mA - 10A/µs	160mA - 10A/µs	320mA - 20A/µs	320mA - 20A/µs	480mA - 30A/µs
Thigh & Tlow	50µs - 9.999 sec				
Accuracy	± 10% ± 10µs				
Other					
Load ON voltage	0.1 - 25.0V, 1% of (setting & range)				
Load OFF voltage	0 - 25.0V, 0.05% of (setting & range)				
Max. Short Resistance	0.0025Ω	0.0017Ω	0.0015Ω	0.0013Ω	0.001Ω
Imonitor (Isolated)	24A/V	24A/V	48A/V	48A/V	72A/V

made for experts

sales@etps.co.uk
0800 612 95 75

Technical Data

	ELP-33512	ELP-33532	ELP-33513	ELP-33514	ELP-33515
Over Power Protection	≈ 5670W	≈ 5670W	≈ 7560W	≈ 9450W	≈ 11340W
Over Current Protection	≈ 378A	≈ 756A	≈ 504A	≈ 630A	≈ 756A
Over Voltage Protection	≈ 63V	≈ 63V	≈ 63V	≈ 63V	≈ 63V
Over Temp. Protection	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C
CC Mode					
Range 1	0 - 36A	0 - 72A	0 - 48A	0 - 60A	0 - 72A
Range 1 Resolution	9.6mA	19.2mA	12.8mA	16mA	19.2mA
Range 2	36 - 360A	72 - 720A	48 - 480A	60 - 600A	72 - 720A
Range 2 Resolution	96mA	192mA	128mA	160mA	192mA
Accuracy	± 0.2% of (setting + range)				
CR Mode					
Range 1	0.0088Ω - 0.1666Ω	0.0044Ω - 0.083Ω	0.0066Ω - 0.125Ω	0.0052Ω - 0.1Ω	0.0046Ω - 0.0833Ω
Range 1 Resolution	0.044mΩ	0.022mΩ	0.033mΩ	0.026mΩ	0.023mΩ
Range 2	0.1666 - 625Ω	0.083 - 312.5Ω	0.125 - 468.7Ω	0.1 - 375Ω	0.0833 - 312.37Ω
Range 2 Resolution	1.66mS	3.2mS	2.133mS	2.66mS	3.201mS
Accuracy	± 0.2% of (setting + range)				
CV Mode					
Range	0 - 60V				
Resolution	0.016V				
Accuracy	± 0.1% of (setting + range)				
CP Mode					
Range 1	0 - 5400W	0 - 5400W	0 - 7200W	0 - 9000W	0 - 10800W
Range 1 Resolution	1.44W	1.44W	1.92W	2.4W	2.88W
Accuracy	± 0.5% of (setting + range)				
4½ DVM					
Range 1	0 - 15.00V				
Range 1Resolution	0.5mV				
Range 2	15.00 - 60.00V				
Range 2 Resolution	2mV				
Accuracy	± 0.05% of (reading + range)				
4½ DAM					
Range 1	0 - 36A	0 - 72A	0 - 48A	0 - 60A	0 - 72A
Range 1 Resolution	1.2mA	2.4mA	1.6mA	2mA	2.4mA
Range 2	36 - 360A	72 - 720A	48 - 480A	60 - 600A	72 - 720A
Range 2 Resolution	12mA	24mA	16mA	20mA	24mA
Accuracy	± 0.2% of (reading + range)				
Dynamic					
Slew Rate 1	24mA - 1.5A/µs	48mA - 3A/µs	32mA - 2A/µs	40mA - 2.5A/µs	48mA - 3A/µs
Slew Rate 2	240mA - 15A/µs	480mA - 30A/µs	320mA - 20A/µs	400mA - 25A/µs	480mA - 30A/µs
Thigh & Tlow	50µs - 9.999 sec				
Accuracy	± 10% ± 10µs				
Other					
Load ON voltage	0.1 - 25.0V, 1% of (setting & range)				
Load OFF voltage	0 - 25.0V, 0.05% of (setting & range)				
Max. Short Resistance	0.002Ω	0.001Ω	0.0015Ω	0.0012Ω	0.001Ω
Imonitor (Isolated)	36A/V	72A/V	48A/V	60A/V	72A/V

made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-3360

High Voltage DC Load

Description

This series of 500Vdc electronic Loads provides a wide range of current and power ranges. The high voltage makes these Electronic Loads ideal for Power Factor Correction testing along with a host of other production and laboratory applications. RS232 & GPIB interfaces are provided for computer control. The front panel has an isolated BNC output so that the load current can be monitored on an external scope. The high accuracy 4½ digit displays feature 16 bit resolution. Dual setting ranges provide excellent resolution at low current. For production testing GO/NG limits can be set. When used in constant current or constant power mode the load can be set to operate dynamically. This enables the load current to be switched between two levels and the current rise and fall times adjusted. The time that the load is at the higher sink level and the time it is at the lower setting can also be adjusted. A short test function is provided as standard. The short voltage and current can be read via the front panel or interface. If this feature is not desired then your chosen unit can be built without the short test function. The load can be set to automatically turn on or off when a preset voltage is present at the load's terminals.

- CC, CR, CV, CP, dynamic & short mode
- 150 sets store/recall memory
- IEEE488.2/RS232 interfaces
- LabVIEW drivers

Selection Table

Part Number	Maximum Power	Maximum Voltage	Maximum Current	Dimensions (Width x Height x Depth)
ELP-3360	600W	500VDC	0 - 20A	19" x 4U x 445mm
ELP-3361	1200W	500VDC	0 - 40A	19" x 4U x 445mm
ELP-3362	1800W	500VDC	0 - 60A	19" x 4U x 445mm
ELP-3367	1800W	500VDC	0 - 12A	19" x 4U x 445mm
ELP-33611	2400W	500VDC	0 - 80A	19" x 8U x 445mm
ELP-33621	3600W	500VDC	0 - 120A	19" x 8U x 445mm
ELP-33671	3600W	500VDC	0 - 24A	19" x 8U x 445mm
ELP-3365	5400W	500VDC	0 - 120A	19" x 12U x 445mm
ELP-33622	5400W	500VDC	0 - 180A	19" x 12U x 445mm
ELP-33672	5400W	500VDC	0 - 36A	19" x 12U x 445mm

Options Table

Code	Description
/0001	1m IEEE488.2 cable
/0002	2m IEEE488.2 cable
/0003	2m RS232 cable
/9931	Remote controller
/DSK	Disable short test function

made for experts

sales@etps.co.uk
0800 612 95 75

Technical Data

	ELP-3360	ELP-3361	ELP-3362	ELP-3363	ELP-3364	ELP-3365
Over Power Protection	≈ 630W	≈ 1260W	≈ 1890W	≈ 2520W	≈ 3780W	≈ 5670W
Over Current Protection	≈ 21A	≈ 42A	≈ 63A	≈ 84A	≈ 126A	≈ 126A
Over Voltage Protection	≈ 525.5V	≈ 525.5V	≈ 525.5V	≈ 525.5V	≈ 525.5V	≈ 525.5V
Over Temp. Protection	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C
CC Mode						
Range 1	0 - 2A	0 - 4A	0 - 6A	0 - 8A	0 - 12A	0 - 12A
Range 1 Resolution	0.534mA	1.068mA	1.6mA	2.133mA	3.2mA	3.2mA
Range 2	20A	40A	60A	80A	120A	120A
Range 2 Resolution	5.334mA	10.67mA	16mA	21.33mA	32mA	32mA
Accuracy	± 0.5% of (setting + range)					
CR Mode						
Range 1	1.334 - 25Ω	0.667 - 12.5Ω	0.444 - 8.333Ω	0.333 - 6.25Ω	0.222 - 4.166Ω	0.222 - 4.166Ω
Range 1 Resolution	6.667mΩ	3.334mΩ	2.222mΩ	1.667mΩ	1.111mΩ	1.111mΩ
Range 2	25 - 18.75KΩ	12.5 - 18.75KΩ	8.333 - 18.75KΩ	6.25 - 18.75KΩ	4.166 - 15.625KΩ	4.166 - 15.625KΩ
Range 2 Resolution	0.0106mS	0.0213mS	0.032mS	0.0426mS	0.064mS	0.064mS
Accuracy	± 0.5% of (setting + range)					
CV Mode						
Range	0 - 500V					
Resolution	0.1333 V					
Accuracy	± 0.25% of (setting + range)					
CP Mode						
Range 1	0 - 600W	0 - 1200W	0 - 1800W	0 - 2400W	0 - 3600W	0 - 5400W
Range 1 Resolution	0.16W	0.32W	0.48W	0.64W	0.96W	1.44W
Accuracy	± 0.5% of (setting + range)					
4½ DVM						
Range	0 - 60.00V					
Resolution	0.01V					
Range	600.0V					
Resolution	0.1V					
Accuracy	± 0.05% of (reading + range)					
4½ DAM						
Range 1	0 - 2.000A	0 - 4.000A	0 - 6.000A	0 - 8.000A	0 - 12.000A	0 - 12.000A
Range 1 Resolution	0.0001A	0.001A	0.001A	0.001A	0.001A	0.001A
Range 2	20.00A	40.00A	60.00A	80.00A	120.00A	120.00A
Range 2 Resolution	0.001A	0.01A	0.01A	0.01A	0.01A	0.01A
Accuracy	± 0.2% of (reading + range)					
Dynamic						
Slew Rate 1	1.6mA - 0.1A/µS	3.2mA - 0.2A/µS	4.8mA - 0.3A/µS	6.4mA - 0.4A/µS	9.6mA - 0.6A/µS	9.6mA - 0.6A/µS
Slew Rate 2	16mA - 1A/µS	32mA - 2A/µS	48mA - 3A/µS	64mA - 4A/µS	96mA - 6A/µS	96mA - 6A/µS
Thigh & Tlow	50µS - 9.999Sec					
Accuracy	± 10% ± 10µS					
Load ON voltage	0.4 - 100V, 1% of (setting + range)					
Load OFF voltage	0 - 100V, 0.05% of (setting + range)					
Max. Short Resistance	0.25Ω	0.125Ω	0.0833Ω	0.0625Ω	0.0416Ω	0.0625Ω
Weight	15.2kgs	14.4kgs	23.6kgs	38.8kgs	47.2kgs	70.8kgs

made for experts

Unit 14, The Bridge, Beresford Way
Chesterfield, Derbyshire, S41 9FG, UK
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

ELP-3360P

High Voltage High Power DC Loads

Description

This series of high power loads are able to take up to 10.8kW at 500Vdc. A high degree of accuracy is provided via the front panel displays and the integrated computer interfaces. Models are available with relatively wide or narrow current sink ranges. All units have dual ranges for both current and resistance operation. This provides excellent resolution with the possibility of setting steps below 2mA. True dynamic operation is possible when the load is in constant current or constant power mode. The current slew rate can be adjusted between 2 preset current levels. The time while the waveform is at the upper limit and the time spent low can also be adjusted. The load also has an input to enable it to follow a signal generated from an external source. The front panel memory is a useful feature to enable frequently used setting to be quickly restored. A dedicated short test function enables the short voltage and current to be measured. The ELP-3360P is used in many applications including PFC & current limit testing, transient response and battery charge/discharge simulation.

- Dynamic operation with external tracking
- Front panel memory function
- IEEE488.2/RS232 interfaces
- CC, CV, CP & CR Modes
- Ideal for PFC testing

Selection Table

Part Number	Maximum Power	Maximum Voltage	Maximum Current	Dimensions (Width x Height x Depth)
ELP-33623	7.2kW	500VDC	0 - 240A	19" x 16U x 445mm*
ELP-33673	7.2kW	500VDC	0 - 48A	19" x 16U x 445mm*
ELP-33624	9kW	500VDC	0 - 300A	19" x 20U x 445mm*
ELP-33674	9kW	500VDC	0 - 60A	19" x 20U x 445mm*
ELP-33625	10.8kW	500VDC	0 - 360A	19" x 24U x 445mm*
ELP-33675	10.8kW	500VDC	0 - 72A	19" x 24U x 445mm*

*Units shipped as 19"x 4U rackmounting modules

Options Table

Code	Description
/0001	1m IEEE488.2 cable
/0002	2m IEEE488.2 cable
/0003	2m RS232 cable
/9931	Remote controller
/DSK	Disable short test function

made for experts

sales@etps.co.uk
0800 612 95 75

Technical Data

	ELP-33623	ELP-33673	ELP-33624	ELP-33674	ELP-33625	ELP-33675
Over Power Protection	≈ 7560W	≈ 7560W	≈ 9450W	≈ 9450W	≈ 11340W	≈ 11340W
Over Current Protection	≈ 252A	≈ 50.4A	≈ 315A	≈ 63A	≈ 378A	≈ 75.6A
Over Voltage Protection	≈ 525.5V	≈ 525.5V	≈ 525.5V	≈ 525.5V	≈ 525.5V	≈ 525.5V
Over Temp. Protection	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C	≈ 85°C
CC Mode						
Range 1	0 - 24A	0 - 4.8A	0 - 30A	0 - 6A	0 - 36A	0 - 7.2A
Range 1 Resolution	6.4mA	1.28mA	8mA	1.6mA	9.6mA	1.92mA
Range 2	24 - 240A	4.8 - 48A	30 - 300A	6 - 60A	36 - 360A	7.2 - 72A
Range 2 Resolution	64mA	12.8mA	80mA	16mA	96mA	19.2mA
Accuracy	± 0.5% of (setting + range)					
CR Mode						
Range 1	0.0555 - 2.083Ω	0.5554 - 10.416Ω	0.0888 - 1.666Ω	0.4444 - 8.333Ω	0.074 - 1.3888Ω	0.3704 - 6.944Ω
Range 1 Resolution	0.555mΩ	2.777mΩ	0.444mΩ	2.222mΩ	0.3703mΩ	1.852mΩ
Range 2	2.083 - 7811KΩ	10.416 - 19531Ω	1.666 - 6250Ω	8.333 - 15625Ω	1.3888 - 5208Ω	6.944 - 13020Ω
Range 2 Resolution	0.128mS	0.005mS	0.16mS	0.032mS	19.2mS	0.005mS
Accuracy	± 0.5% of (setting + range)					
CV Mode						
Range	0 - 500V					
Resolution	0.1333 V					
Accuracy	± 0.25% of (setting + range)					
CP Mode						
Range 1	0 - 7200W	0 - 7200W	0 - 9000W	0 - 9000W	0 - 10800W	0 - 10800W
Range 1 Resolution	1.92W	1.92W	2.4W	2.4W	2.88W	2.88W
Accuracy	± 0.5% of (setting + range)					
4½ DVM						
Range	0 - 60.00V					
Resolution	2mV					
Range	600.0V					
Resolution	20mV					
Accuracy	± 0.05% of (reading + range)					
4½ DAM						
Range 1	0 - 24.00A	0 - 4.800A	0 - 30.00A	0 - 6.000A	0 - 36.00A	0 -7.200A
Range 1 Resolution	10mA	0.16mA	1mA	0.2mA	12mA	0.24mA
Range 2	24 - 240.0A	4.8 - 48.00A	30 - 300.0A	6 - 60.00A	36 - 360.00A	7.2 - 72.00A
Range 2 Resolution	100mA	1.6mA	10mA	2mA	120mA	2.4A
Accuracy	± 0.2% of (reading + range)					
Dynamic						
Slew Rate 1	19.2mA - 1.2A/µS	3.84mA - 0.24A/µS	24mA - 1.5A/µS	4.8mA - 0.3A/µS	28.8mA - 1.8A/µS	5.67mA - 0.36A/µS
Slew Rate 2	192mA - 12A/µS	38.4mA - 2.4A/µS	240mA - 15A/µS	48mA - 3A/µS	288mA - 18A/µS	56.7mA - 3.6A/µS
Thigh & Tlow	50µS - 9.999Sec					
Accuracy	± 10% ± 10µS					
Load ON voltage	0.4 - 100V, 1% of (setting + range)					
Load OFF voltage	0 - 100V, 0.05% of (setting + range)					
Max. Short Resistance	0.0208Ω	0.104Ω	0.0167Ω	0.104Ω	0.014Ω	0.07Ω