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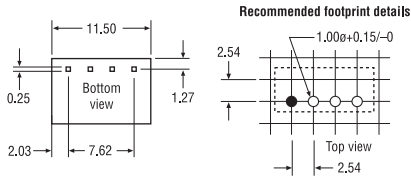
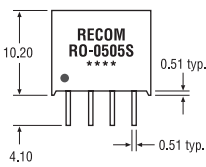
1W Single output DC to DC converters – RN/R0 series

A range of 1W single output DC to DC converters available in industry standard SIL and DIL packages. Features include:

- Industry standard pinout
- 1kV DC isolation
- Toroidal magnetics
- Fully encapsulated
- **UL 94V-0** rated package material



10 PIN Dual SMD Package



R0 Pin connections
Pin # Single
1 -Vin
2 +Vin
3 -Vout
4 +Vout
XX.X ± 0.5mm
XX.XX ± 0.25mm

Technical specification
Nominal input voltage 5V or 12V
Input voltage variation ±10%
Load voltage regulation 5V types 15% max.
12V types 10% max.
Output ripple and noise 100mV peak to peak

SIL package				DIL package			
Vin	Vout	Recom type	Order code	Vin	Vout	Recom type	Order code
5	5	RO-0505S	84-2240	5	5	RN-0505S	84-2250
5	12	RO-0512S	84-2242	5	15	RN-0515S	84-2252
5	15	RO-0515S	84-2244	9	9	RN-0909S	84-2253
12	5	RO-1205S	84-2246	12	5	RN-1205S	84-2254
12	50	RO-1212S	84-2248	12	12	RN-1212S	84-2256
				12	15	RN-1215S	84-2258

Input voltage	Output voltage	Order code	1+	10+	25+	50+
SIL package						
5V	5V	84-2240	3.95	3.69	3.43	3.28
5V	12V	84-2242	3.40	3.25	3.00	2.75
5V	15V	84-2244	3.40	3.25	3.00	2.75
12V	5V	84-2246	5.25	4.50	4.15	3.50
12V	12V	84-2248	3.02			

DIL package						
5V	5V	84-2250	3.95	3.69	3.43	3.28
5V	15V	84-2252	3.95	3.69	3.43	3.28
9V	9V	84-2253	3.95	3.69	3.43	3.28
12V	5V	84-2254	3.95	3.69	3.43	3.28
12V	12V	84-2256	3.95	3.69	3.43	3.28
12V	15V	84-2258	3.95	3.69	3.43	3.28
Recom RN-0915S DC-DC Converter		84-0002	4.31	3.84		

36107



Live help

If you have a problem when shopping online log on and chat to a member of the team

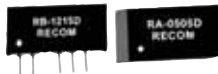
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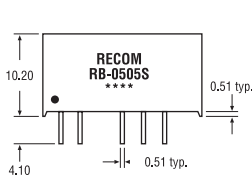
1W Dual output DC to DC converters – RA/RB series

A range of 1W dual output DC to DC converters in industry standard SIL or DIL packages. Competitively priced this range features:

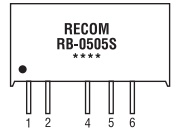
- Dual output from a single input rail
- Industry standard pinout
- Over 70% efficiency
- Power sharing on output
- **UL 94V-0** package material



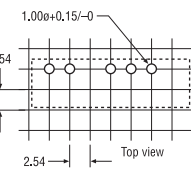
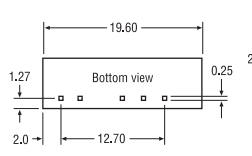
7 PIN SIL Package



Dual output



Recommended footprint details



Pin connections
Pin # Single Dual
1 +Vin +Vin
2 -Vin -Vin
4 NC Com
5 -Vout +Vout
6 +Vout +Vout
NC = No connection
XX.X ± 0.5mm
XX.XX ± 0.25mm

Technical specification
Nominal input voltage 5, 12 or 24V
Input voltage variation ±10%
Load voltage regulation ±10% typ.
Output voltage accuracy ±5%
Output ripple and noise 50mV peak to peak max.
Efficiency >70%

SIL package				DIL package			
Vin	Vout	Recom type	Order code	Vin	Vout	Recom type	Order code
5	±5	RB-0505D	84-2270	5	±5	RA-0505D	84-2290
5	±12	RB-0512D	84-2272	5	±12	RA-0512D	84-2292
5	±15	RB-0515D	84-2274	5	±15	RA-0515D	84-2294
12	±5	RB-1205D	84-2276	12	±5	RA-1205D	84-2296
12	±12	RB-1212D	84-2278	12	±12	RA-1212D	84-2298
12	±15	RB-1215D	84-2280	12	±15	RA-1215D	84-2300
24	±12	RB-2412D	84-2284				
24	±15	RB-2415D	84-2286				

Input voltage	Output voltage	Order code	1+	10+	25+	50+
SIL package						
5V	5V	84-2270	3.95	3.69	3.43	3.28
5V	12V	84-2272	3.95	3.69	3.43	3.28
5V	15V	84-2274	3.95	3.69	3.43	3.28
12V	5V	84-2276	4.82	3.95	3.64	3.38
12V	12V	84-2278	3.39			
12V	15V	84-2280	3.95	3.69	3.43	3.28
24V	12V	84-2284	4.82	3.95	3.64	3.38
24V	15V	84-2286	5.07	4.20	3.84	3.54
DIL package						
5V	5V	84-2290	5.38	4.41	4.05	3.74
5V	12V	84-2292	4.20			
5V	15V	84-2294	3.37			
12V	5V	84-2296	3.95			
12V	12V	84-2298	4.82	3.95	3.64	3.38
12V	15V	84-2300	4.21			

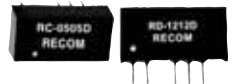
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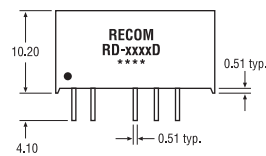
2W Dual output DC to DC converters – RC/RD series

A range of 2W dual output DC to DC converters in industry standard SIL or DIL packages. Key features include:

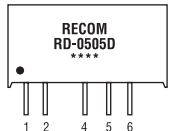
- 1kV DC isolation
- Dual output from a single input rail
- Power sharing on output
- No heatsink required
- **UL 94V-0** package material



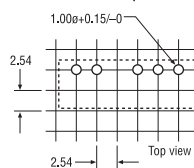
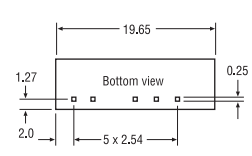
7 PIN SIL Package



Dual output



Recommended footprint details



Pin connections
Pin # RD
1 +Vin +Vin
2 -Vin -Vin
4 -Vout +Vout
5 Com
6 +Vout +Vout
XX.X ± 0.5mm
XX.XX ± 0.25mm

Technical specification
Nominal input voltage 5 or 12V
Input voltage variation ±10%
Load voltage regulation (10 to 100% full load) ±10%
Output ripple and noise 150mV peak to peak
Efficiency >70%

SIL package				DIL package			
V _{in}	V _{out}	Recom type	Order code	V _{in}	V _{out}	Recom type	Order code
5	±12	RD-0512D	84-2322	5	±12	RC-0512D	84-2342
5	±15	RD-0515D	84-2324	5	±15	RC-0515D	84-2344
12	±5	RD-1205D	84-2326	12	±5	RC-1205D	84-2346
12	±12	RD-1212D	84-2328	12	±12	RC-1212D	84-2348
12	±15	RD-1215D	84-2330	12	±15	RC-1215D	84-2350
24	±9	RD-2409D	84-2332	24	±9	RC-2409D	84-2352
24	±15	RD-2415D	84-2334	24	±15	RC-2415D	84-2354
5	±5	RC-0505D	84-2340				

Type	Order code	1+	10+	25+	50+
5V 12V	84-2322	5.64	5.13	4.61	4.41
5V 15V	84-2324	5.64	5.13	4.61	4.41
12V 5V	84-2326	5.00	4.85	4.00	3.85
12V 12V	84-2328	5.00	4.85	4.00	3.85
12V 15V	84-2330	5.64	5.13	4.61	4.41
24V 9V	84-2332	5.64	5.13	4.61	4.41
24V 15V	84-2334	5.64	5.13	4.61	4.41

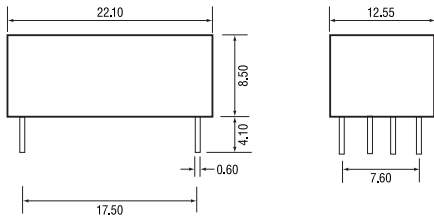
Type	Order code	1+	10+	25+	50+
5V 5V	84-2340	5.64	5.13	4.61	4.41
5V 12V	84-2342	5.64	5.13	4.61	4.41
5V 15V	84-2344	5.64	5.13	4.61	4.41
12V 5V	84-2346	5.64	5.13	4.61	4.41
12V 12V	84-2348	5.64	5.13	4.61	4.41
12V 15V	84-2350	5.64	5.13	4.61	4.41
24V 9V	84-2352	5.64	5.13	4.61	4.41
24V 15V	84-2354	5.64	5.13	4.61	4.41



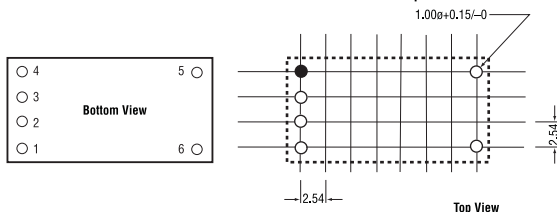
350mA Constant current single output high power LED driver

A step-down (buck) constant current source converter that is designed for driving high power white LEDs without the need for any external components.

- Constant current output
- Power LED driver
- Wide input voltage range
- PWM/digital dimming and analogue voltage dimming
- Short circuit protected
- Efficiency 96%
- High reliability
- **Recom RCD-24 series**



Recommended Footprint Details



Pin Connections		RCD-24 Series
Pin	Out	Comments
1	+Vin	DC Supply
2	Analogue Dimming	Leave open if not used
3	PWM/ON/OFF	Leave open if not used
4	GND	Do not connect to -Vout
5	-Vout	LED Cathode Connection
6	+Vout	LED Anode Connection

XX.X ± 0.5 mm
XX.XX ± 0.25 mm
Pin Tolerance ± 0.1mm

Technical specification					
Input voltage range	4.5V to 36V				
Output voltage range	2V to 32V				
Output current	350mA				
Output current accuracy	±2%				
Output current stability	±1%				
Output ripple and noise max.	120mV p-p				
Operating frequency max.	300kHz				
Operating temperature range	-40°C to +85°C				

Type	Output voltage	Order code	1+	10+	25+	50+
DC-DC Conv.	2V to 32V	84-2603	9.00	8.50	8.00	7.20

Type	Order code	1+	5+	10+
RCD-24 350mA POWER LED DRIVER	84-2604	13.79	12.65	11.34



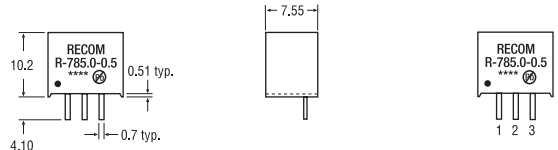
0.5A Single output step-down DC to DC converters, R-78xx-0.5 series

A range of 0.5A single output step-down DC to DC converters, housed in a SIL package, that are ideal for use as switching regulators.

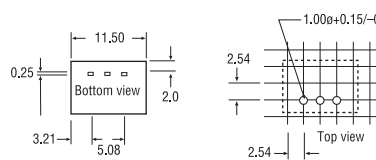
- Efficiency up to 97%
- Non isolated
- No heatsink required
- Pin compatible with 78xx linear regulators
- Very low profile
- Wide input voltage range
- Short circuit protection and thermal shutdown
- Low ripple and noise
- Fully certified to **EN 60601-1-2 (Medical Equipment)**, **EN 55022 (Emissions)**, and **EN 55024 (Immunity)** EMC standards



SIP3 PIN Package



Recommended footprint details



Pin connections	
Pin #	
1	+Vin
2	GND
3	+Vout
xx.xx ±0.5mm	
xx.xx ±0.25mm	

Technical specification	
Output current	0.5A
Output current limit	2A
Internal power dissipation	0.4W
Output voltage accuracy	±2% typ.
Line voltage regulation	0.2% typ.
Load voltage regulation	0.1% typ.
Output ripple and noise	0.4% typ.
Switching frequency	0.25% typ.
	30mVp-p max.
	40mVp-p max.
	380kHz max.

V _{in} range	V _{out}	Recom type	Order code
4.75 to 30V	1.5V	R-781.5-0.5	84-2550
4.75 to 34V	1.8V	R-781.8-0.5	84-2551
4.75 to 34V	2.5V	R-782.5-0.5	84-2552
4.75 to 34V	3.3V	R-783.3-0.5	84-2553
6.5 to 34V	5V	R-785.0-0.5	84-2554
8 to 34V	6.5V	R-786.5-0.5	84-2555
11 to 34V	9V	R-789.0-0.5	84-2556
15 to 34V	12V	R-7812-0.5	84-2557
18 to 34V	15V	R-7815-0.5	84-2558

Input voltage	Output voltage	Order code	1+	10+	25+	50+
4.75 - 30V	1.5V	84-2550	4.97	4.61	4.27	4.07
4.75 - 34V	1.8V	84-2551	4.97	4.61	4.27	4.07
4.75 - 34V	2.5V	84-2552	4.97	4.61	4.27	4.07
4.75 - 34V	3.3V	84-2553	4.97	4.61	4.27	4.07
6.50 - 34V	5V	84-2554	4.97	4.61	4.27	4.07
8.00 - 34V	6.5V	84-2555	4.97	4.61	4.27	4.07
11.0 - 34V	9V	84-2556	4.97	4.61	4.27	4.07
15.0 - 35V	12V	84-2557	4.97	4.61	4.27	4.07
18.0 - 34V	15V	84-2558	4.97	4.61	4.27	4.07

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Bench Power Supplies

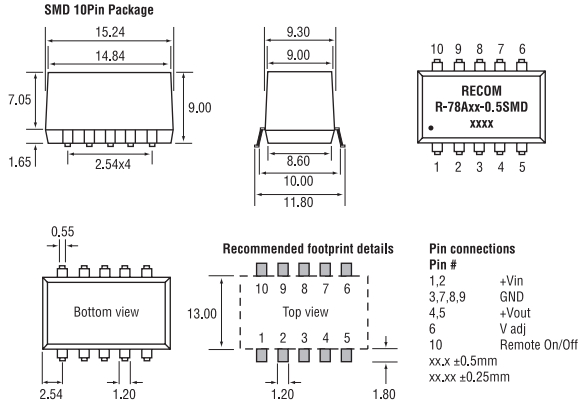
£515.00
85-4428



0.5A Single output SMD step-down DC to DC converters, R-78Axx-0.5 SMD series

A range of 0.5A single output step-down DC to DC converters, housed in an SMD package.

- Adjustable output voltage
- Efficiency up to 97%
- Non isolated
- No heatsink required
- Wide input voltage range
- Short circuit protection and thermal shutdown
- Remote On/Off control
- Low shutdown current



Technical specification				
Output current	0.5A			
Output current limit	2A			
Internal power dissipation	0.4W			
Output voltage accuracy	±2% typ.			
Line voltage regulation	0.2% typ.			
Load voltage regulation	0.1% typ.			
Output ripple and noise	0.4% typ.			
Switching frequency	0.25% typ.			
	30mVp-p max.			
	40mVp-p max.			
	380kHz max.			
V _{in} range	V _{out}	Output adjustment range	Recom type	Order code
4.75 to 30V	1.5V	Fixed	R-78A1.5-0.5SMD	84-2560
4.75 to 34V	1.8V	1.5 to 3.3V	R-78A1.8-0.5SMD	84-2561
4.75 to 34V	2.5V	1.5 to 4.5V	R-78A2.5-0.5SMD	84-2562
4.75 to 34V	3.3V	1.8 to 5.5V	R-78A3.3-0.5SMD	84-2563
6.5 to 34V	5V	2.5 to 8V	R-78A5.0-0.5SMD	84-2564
8 to 34V	6.5V	3.3 to 11V	R-78A6.5-0.5SMD	84-2565
11 to 34V	9V	4.5 to 12.6V	R-78A9.0-0.5SMD	84-2566
15 to 34V	12V	4.5 to 12.6V	R-78A12-0.5SMD	84-2567
18 to 34V	15V	Fixed	R-78A15-0.5SMD	84-2568

Input voltage	Output voltage	Order code	1+	10+	25+	50+
4.75 - 30V	1.5V	84-2560	6.56	6.00	5.70	5.50
4.75 - 34V	1.8V	84-2561	6.56	6.00	5.70	5.50
4.75 - 34V	2.5V	84-2562	6.56	6.00	5.70	5.50
4.75 - 34V	3.3V	84-2563	6.56	6.00	5.70	5.50
6.50 - 34V	5V	84-2564	6.56	6.00	5.70	5.50
8.00 - 34V	6.5V	84-2565	6.56	6.00	5.70	5.50
11.0 - 34V	9V	84-2566	6.56	6.00	5.70	5.50
15.0 - 34V	12V	84-2567	6.56	6.00	5.70	5.50
18.0 - 34V	15V	84-2568	6.56	6.00	5.70	5.50

78071



1A Single output step-down DC to DC converters, R-78xx-1.0 series

A range of 1A single output step-down DC to DC converters, housed in a SIL package, that are ideal for use as switching regulators.

- Efficiency up to 94%
- Non isolated
- No heatsink required
- Pin compatible with LM78xx linear regulators
- Very low profile
- Wide input voltage range
- Short circuit protection and thermal shutdown
- Low ripple and noise



Technical specification				
Output current	1A			
Output current limit	3A			
Internal power dissipation	0.4W			
Output voltage accuracy	±2% typ.			
Line voltage regulation	0.2% typ.			
Load voltage regulation	0.4% typ.			
Output ripple and noise	30mVp-p max.			
Switching frequency	430kHz max.			
V _{in} range	V _{out}	Recom type	Order code	
4.75 to 18V	1.8V	R-781.8-1.0	84-2570	
4.75 to 18V	2.5V	R-782.5-1.0	84-2571	
4.75 to 18V	3.3V	R-783.3-1.0	84-2572	
6.5 to 18V	5V	R-785.0-1.0	84-2573	

Input voltage	Output voltage	Order code	1+	10+	25+	50+
4.75 - 18V	1.8V	84-2570	5.48	5.07	4.66	4.51
4.75 - 18V	2.5V	84-2571	5.48	5.07	4.66	4.51
4.75 - 18V	3.3V	84-2572	5.48	5.07	4.66	4.51
6.50 - 18V	5V	84-2573	5.48	5.07	4.66	4.51

78072



Recom RS series voltage regulators

These 2 Watt, SIP8, high power-density regulators have an industrial temperature range of -40 to +85°C and extra features like remote-On-Off control.

- 2:1 and 4:1 wide input voltage ranges
- 1kVDC isolation
- UL94V-0 package material
- Continuous short-circuit protection
- Low noise
- No external capacitor needed
- Efficiency up to 83%
- Recom RS series



Technical specification				
Part number	Input voltage range	Output voltage	Output current	
RS-2405S	18 to 36V DC	5V DC	400mA	
Type	Order code	1+	10+	
5V single	84-0001	8.90	8.00	

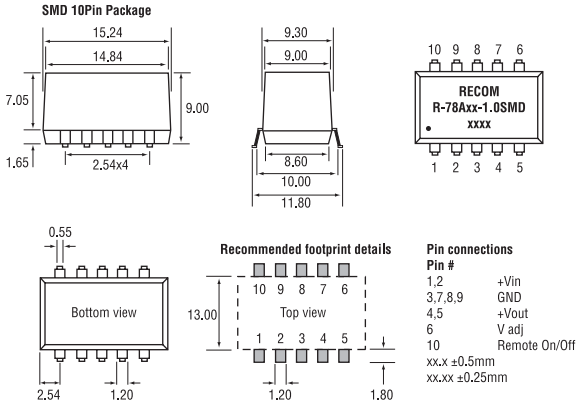
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1A Single output SMD step-down DC to DC converters, R-78Axx-1.0 SMD series

A range of 1A single output step-down DC to DC converters, housed in an SMD package.

- Adjustable output voltage
- Efficiency up to 94%
- Non isolated
- No heatsink required
- Wide input voltage range
- Short circuit protection and thermal shutdown
- Remote On/Off control
- Low shutdown current



Technical specification				
Output current	1A			
Output current limit	3A			
Internal power dissipation	0.4W			
Output voltage accuracy	±2% typical			
Line voltage regulation	0.2% typical			
Load voltage regulation	0.7% typical			
Output ripple and noise	30mVp-p max.			
Switching frequency	430kHz max.			
V _{in} range	V _{out}	Output adjustment range	Recom type	Order code
4.75 to 18V	1.8V	1.5 to 3.3V	R-78A1.8-1.0SMD	84-2574
4.75 to 18V	2.5V	1.5 to 4.5V	R-78A2.5-1.0SMD	84-2575
4.75 to 18V	3.3V	1.5 to 5.5V	R-78A3.3-1.0SMD	84-2576
6.5 to 18V	5V	2.5 to 5.5V	R-78A5.0-1.0SMD	84-2577

Input voltage	Output voltage	Order code	1+	10+	25+	50+
4.75 - 18V	1.8V	84-2574	7.11	6.47	6.18	5.97
4.75 - 18V	2.5V	84-2575	7.11	6.47	6.18	5.97
4.75 - 18V	3.3V	84-2576	5.64	5.13	4.61	
6.50 - 18V	5V	84-2577	7.11	6.47	6.18	5.97

78073



New products

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Recom RB-2405S/H Econoline DC/DC converter

The RB series DC/DC converter has been designed for isolating or converting DC power rails in general purpose applications. Although low cost, it does not compromise on features and offers 1kV DC or 2kV DC isolation, a -40°C to +85°C operating temperature range and optional continuous short circuit protection.

- Dual output from a single input rail
- Power sharing on output
- Industry standard pinout
- 1kV DC and 2kV DC isolation
- Custom solutions available
- UL94V-0 package material
- Efficiency to 85%



Type	Order code	1+
DC/DC Converter	84-2605	3.75

500137



DC-DC converter RP12-2405SAW, 5V 12W

This RP12-AW series wide range input DC/DC converter is certified to UL 60950-1 and cUL 60950-1. This makes it ideal for all telecom and industrial applications where approved safety standards are required.

The DIP24 package is supplied in pinned case style and meets military standards for thermal shock and vibration tolerance.

- 4:1 Wide input voltage range
- 12W regulated output power
- 1.6kV DC Isolation
- Over current and over voltage protection
- Five-sided shield
- No derating to 61°C
- Standard DIP24 pinning
- Efficiency to 88%



Technical specification	
Mfrs Part:	RP12-2405SAW
Input range:	9-36V DC
Output range:	5.1
Output current:	2400mA
Input current:	55/614mA
Efficiency:	87
Capacitive load max.:	2000µF

Type	Order code	1+
DC-DC converter	84-2651	28.95

500695

PowerPax UK

0.5W and 1W Ultra compact PCB mounting power supplies

Believed to be the smallest, fully functional switch mode power supplies in the world, the BPS product series is available in output powers of 0.5W and 1.0W providing a drop in solution enabling designers to reduce the engineering cycle, simplify certification and reduce time to market.

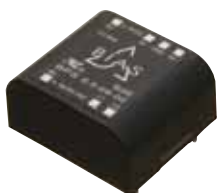
The BPS series is based on a patented circuit design that ensures conversion efficiency is maximized and effectively regulates output voltages evenly over the entire wide range 85 to 265V AC input. Single outputs of 8 and 14V DC and dual outputs of 8 and 5V DC are available. All units have full short circuit protection and input to output isolation of 3kV AC. This series offers an extremely small footprint of just 22.6 x 26.2 x 13.5mm (8cm³) in a rugged tamper-proof sealed package.

The ranges low emission characteristics make it particularly suitable for ZigBee IEEE (802.15.4), Z-wave, Bluetooth GSM, GPRS and other emissions critical applications, as well as other demanding applications such as the charging of super capacitors, security systems, standby power and lighting occupancy sensors. Full technical support is offered where required.

- Universal AC Input 85-265 V AC, 50/60Hz (Input Surge Withstand 308V,
- Ultra miniature Size- 13.9cm³ (0.84in³), the smallest complete module available
- Standard Single Component Solution
- Very low no-load input power <30mW
- 3000 V AC Isolation and Class II double insulation
- Up to 75% efficient
- Power modules may be operated in series or parallel giving increased design flexibility
- Voltage regulated, power limited design, enable the powering of super caps
- Rugged sealed design
- EN 55022, Class B; FCC Part 15, Class B,
- **UL, CE, CB** safety approved. **RoHS** compliant

Type	Order code	1+	10+
0.5W BPS 0.5-08-00	84-2621	13.99	12.68
0.5W BPS 0.5-14-00	84-2622	13.11	11.89
1.0W BPS 1-08-00	84-2623	15.15	13.74
1.0W BPS 1-14-00	84-2624	14.86	13.48

119270



PowerPax UK

3W and 5W Ultra compact PCB mounting power supplies

The 3W and 5W series of AC/DC modules offer a fully isolated, high efficiency PCB mounting power supplies suitable for many applications. This range features universal 85-264V AC 50/60Hz AC input and single output options of 5V DC, 9V DC, 12V DC and 24V DC in a compact package. All models feature inbuilt protection for overvoltage, short circuit and over temperature conditions and meet international safety and EMC standards.

- Universal Input: 85 -264VAC, 50/60Hz
- Low noise and ripple
- Over-voltage protection
- Short circuit protection
- Over temperature protection
- High efficiency
- High power density
- 3W units measure just 37 x 23 x 15mm
- 5W units measure just 50.8 x 25.4 x 15.16mm
- **5W series EN60601-1** medically approved
- **CE** and **UL** safety approved. **RoHS** compliant



Type	Order code	1+	10+
3W PD03-10B05	84-2626	10.44	9.47
3W PD03-10B09	84-2627	10.44	9.47
3W PD03-10B12	84-2628	10.44	9.47
5W PD05-20B05	84-2630	11.58	10.51
5W PD05-20B09	84-2631	11.58	10.51
5W PD05-20B12	84-2632	11.58	10.51
5W PD05-20B24	84-2633	11.58	10.51
3W PD03-10B03	84-2643	9.85	8.93
5W PD05-20B03	84-2644	10.93	9.91

119271

PowerPax UK

10W and 15W Ultra compact PCB mounting power supplies

The 10W and 15W series of AC/DC modules offer a fully isolated, high efficiency PCB mounting power supplies suitable for many applications. This range features universal 85-264V AC 50/60Hz AC input and single output options of 5vdc, 9V DC, 12V DC and 24V DC (15W series includes a 48V DC version) in a compact package. All models feature inbuilt protection for overvoltage, short circuit and over temperature conditions and meet international safety and EMC standards.

- Universal Input: 85 -264V AC, 50/60Hz
- Low noise and ripple
- Over-voltage protection
- Short circuit protection
- Over temperature protection
- High efficiency
- High power density
- 10W units measure just 55 x 45 x 21mm
- 15W units measure just 62 x 45 x 22.5mm



Type	Order code	1+	10+
PH10-10B05	84-2634	13.13	11.90
PH10-10B09	84-2635	13.13	11.90
10W PH10-20B12 PH10-10B12	84-2636	13.13	11.90
10W PH10-10B24	84-2637	13.13	11.90
15W PH15-10B05	84-2638	14.56	13.19
15W PH15-10B09	84-2639	14.56	13.19
15W PH15-10B12	84-2640	14.56	13.19
15W PH15-10B24	84-2641	14.56	13.19
PH10-10B03	84-2646	12.38	11.23

119272

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Computer Power Adaptors



Plug-in Power Supplies

STONTRONICS

5W Switch mode plugtop PSU

A range of regulated switch mode plugtop power supplies that are lightweight and small in size yet offer good performance.

- Can be operated by voltages from 90V AC to 264V AC
- Good output tolerance
- Provides protection from short circuits
- 1.8m Output lead
- Fitted with a standard 2.1mm centre positive connector
- CE approved for safety and noise



Technical specification				
Input voltage	90V to 264V AC			
Frequency	47Hz to 63Hz			
Line regulation	5%			
Load regulation	5%			
Efficiency	60% min.			
Operating temperature	0°C to +40°C			
Weight	85g			

Type	Rating	Order code	1+	10+	25+
5W PSU	5V 1A	85-2928	6.50	6.00	5.50
5W PSU	9V 550mA	85-2926	6.15	5.24	4.15
5W PSU	12V 400mA	85-2927	6.50	6.00	5.50
5W PSU	5V 1A	85-3730	7.74	6.63	5.85
5W PSU	9V 0.55A	85-3731	7.74	6.63	5.85
5W PSU	12V 0.42A	85-3732	7.74	6.63	5.85

74406

STONTRONICS

12V DC 90W Desktop switch mode PSU

This high quality, high reliability desktop power supply is suitable for a wide range of applications including audio/visual equipment, Information Technology products, portable devices and many more applications.



Please note: This unit does not come supplied with a mains lead. Rapid offer a wide selection of suitable mains leads. For a standard 1.5m Figure 8 to UK plug mains lead. (See order code **35-4486**).

- Mains inlet type: IEC 320 C8 (Figure 8)
- Class II / double insulated electrical appliance
- Does not require a safety connection to electrical earth
- Output Voltage: 12V DC
- Output current and power: 7.5A or 90W
- Output Lead: 1m with 2.1 x 5.5 x 12mm C+ve DC connector
- Built in over voltage, over current, over temperature and short circuit protection
- Mains present LED indication
- Meets latest government energy efficiency directives Level V EuP compliant
- Minimum of 87% efficiency and very low standby (<0.5W) power consumption
- Approvals: CB, cULus, GS, FCC and CE
- RoHS Compliant

Technical specification				
Input voltage range:	90 – 264V AC			
Input frequency:	47 – 63Hz			
Input current:	1.5A RMS max			
Leakage current:	0.25mA			
Input power (with no load):	<0.5W			
AC Inlet:	IEC320 – C8 (Figure-8) Type			
Output voltage:	+12VDC			
Minimum load current:	0A			
Nominal load current:	7.5A			
Nominal load power:	90W			
Load regulation:	+/- 5%			
Over voltage protection:	18V max			
Ripple and noise:	300mV p-p max			
Efficiency:	87% min			
Short circuit protection:	Output shut down and auto restart			
Dimensions:	150(L) x 62(W) x 34(H)mm			
Weight:	460g			
Operating temperature:	0°C to +40°C			

Type	Order code	1+	5+	10+
12VDC 90W Desktop SMPSU	85-3948	24.17	22.59	21.01

400574

No minimum order value
UK mainland only

Downloadable datasheets

www.rapidonline.com

STONTRONICS

12V DC Plug and Go switch mode PSUs

These high quality, high reliability plug and go power supplies are suitable for a wide range of applications for use all over the world. As standard, the world traveller power supplies come with a 4-pack of the most common mains plugs including the USA, UK, Euro and Australian mains heads. The units are an ideal companion for people on the move where usability, compactness and reliability is essential.



- Universal mains input voltage: 90-264V AC (47-63Hz)
- Mains plugs (removable): pack of 4 including UK, US, EU and AU
- Output voltage: 12V DC
- Output current/ power: 1A 12W and 2A / 24W models available
- Output lead: 1.5m with right-angled 2.1 x 5.5 x 12mm C+ve DC connector
- Built in over voltage, over current, over temperature and short circuit protection
- Meets latest government energy efficiency directives – Level V EuP compliant
- Minimum of 80.29% efficiency and very low standby power consumption (<0.3W)
- MTBF (Mean time Between Failure): 50,000 Hours
- Approvals: **UL/CUL(UL60950-1)** , **TUV-GS(EN60950-1)** , **T-LICENSE(BS EN60950-1)** , **SA(AS/NZS60950)** , **FCC(PART 15 CLASS B)** , **C-TICK** and **CE(EN55022)**

Technical specification				
	90-2651			85-3947
Input voltage range:	90 – 264V AC			90 – 264V AC
Input frequency:	47 – 63Hz			47 – 63Hz
Input current:	0.3A			0.8A
Input power (with no load):	<0.3W			<0.3W
AC Inlet:	Comes with pack of 4 AC heads – UK, US, EU and AU			Comes with pack of 4 AC heads – UK, US, EU and AU
Output voltage:	+12V DC			+12V DC
Minimum load current:	0A			0A
Nominal load current:	1A			2A
Nominal load power:	12W			24W
Output regulation:	+/- 5%			+/- 5%
Line regulation:	+/- 2%			+/- 2%
Hold-up time:	5mA			5mA
Turn-on delay:	2 Seconds			2 Seconds
Protections:	Short-circuit, over current and over voltage			Short-circuit, over current and over voltage
Ripple and noise:	180mV p-p			300mV p-p
Efficiency:	80% min			80% min
D/C Plug:	Right angled 5.5 x 2.1 x 12mm			Right angled 5.5 x 2.1 x 12mm
Dimensions:	79 (L) x 55.4 (W) x 37 (H)mm			85 (L) x 50 (W) x 40 (H)mm
Weight:	150g			250g
Operating temperature:	0°C To 40°C			0°C To 40°C
Operating humidity:	20 to 85% Rh. non-condensing			20 to 85% Rh. non-condensing
MTBF:	50,000 Hours (@80% Load)			50,000 Hours (@80% Load)

Type	Order code	1+	10+	25+
12V DC, 1A	90-2651	5.65	5.41	4.98
Type	Order code	1+	5+	10+
12V DC, 2A	85-3947	7.36	6.83	6.30

400575



APS 300, 1000, 1500 Traveller 3-12VDC power supply

A range of universal power supplies with adjustable output voltage settings of 3V / 4.5 V / 5V / 6V / 7.5V / 9V and 12V to power many small electrical devices. Included in the set are different output connectors, which can be connected to the output cable with the desired polarity.



- Wide range Input 100V to 240V AC
- Interchangeable input plugs including UK, EU, USA and AUS
- 1.8m (approx) output lead with a set of 7 DC output plugs to fit most applications
- Reversible output plug polarity
- Short circuit protection
- Fully regulated output
- Double insulation and protection to IP20
- Approvals: CE marked
- Complies with European Ecodesign Directive 2005/32/EC (EuP)
- Available in 3 power options of 3.6W, 12W and 18W

Technical specification				
Model	Voltage	Current	Order code	
APS 300 Traveller	3-12VDC 3.6W	300mA	18-3971	
APS 1000 Traveller	3-12VDC 12W	1000mA	18-3972	
APS 1500 Traveller	3-12VDC 18W	1500mA	18-3973	
Type	Order code		1+	
APS 300 Traveller 3-12VDC 3.6W	18-3971		9.47	
APS 1000 Traveller 3- 12VDC	18-3972		13.78	
APS 1500 Traveller 3-12VDC 18W	18-3973		17.25	

400955

PowerPax UK

5W - 12W Mini plugtop switch mode power supply

A range of miniature power supplies that offer switch mode performance and are available in several outputs (see price panel for details).

- Wide input voltage range
- Output connector 2.1 x 12mm plug
- Short circuit, overvoltage and overcurrent protection
- Long MTBF of 50,000 hours at 25°C, full load
- Fitted with 140cm cable
- EMI standard **CE Class B, Conduction and Radiation**
- Safety standards **BSMI, CB, CE, GS**



Technical specification

Input voltage range	90 to 264V AC 47 to 63Hz
Efficiency	63% min.
Load regulation	±5%
Leakage current	<0.25mA
Operating temperature	0°C to +40°C @ 20 to 80% RH
Storage temperature	-20°C to +60°C @ 10 to 90% RH
Dimensions (L x W x H)	52 x 29 x 89mm
Weight	108g

Order code	Output voltage	Output current	Power
85-2954	3.3V DC	1.5A	4.95W
85-2955	5.0V DC	1.5A	7.50W
85-2956	7.5V DC	1.0A	7.50W
85-2957	9.0V DC	0.6A	5.40W
85-2959	15V DC	0.5A	7.50W

Voltage	Current	Order code	1+	10+	25+	100+
3.3V	1.5A	85-2954	7.52	6.13	5.45	5.01
5.0V	1.5A	85-2955	7.52	6.13	5.45	5.01
7.5V	1.0A	85-2956	7.52	6.13	5.45	5.01
9.0V	0.6A	85-2957	7.52	6.13	5.45	5.01
12V DC 500mA PSU		85-3071	4.67	4.15	3.63	3.10
12vdc 1A PSU		85-3070	5.20	4.67	4.15	3.63
15V	0.5A	85-2959	7.52	6.13	5.45	5.01

80857

PowerPax UK

Mini regulated voltage adjustable PSU

An AC/DC Switching adaptor.

- Input: 100 to 240V
- Current: 1000mA (max)
- Supplied complete with 6 detachable plugs including
- A (2.5mm) , B (3.5mm) , E (5.5x2.1mm) , G (5.5x2.5mm) , H (3.5x1.35mm) and N (5.5x1.5mm)
- Dimensions of casing: 76.5x43x33mm



Technical specification

Input	
Input voltage	100 to 240V AC
Input frequency	50 to 60Hz
No load power consumption	0.3W
Input full load current	0.25A
Input power	16.5W max
Output	
Light load output voltage	3.0/4.5/5.0/6.0/7.5/9.0/12.0V DC ±10%
Full load output voltage	3.0/4.5/5.0/6.0/7.5/9.0/12.0V DC ±10%
Min load output current	0A
Max load output current	1.0A
Noise test bandwidth	20MHz. Each output bypassed by a 10uF electrolytic capacitor parallel with a 0.1uF ceramic capacitor to GND

Line regulation
Setup, rise, hold up time
200ms, 30ms, 17ms/115V AC; 200ms, 20ms, 80ms/230VAC

Overall performance

Total output power
Efficiency
12W
Complied with EUP

Hi-pot

Input to output
Input to case
Output to case
Isolation resistance
3000V AC 5mA 50/60Hz
3000V AC 5mA 50/60Hz
1500V AC 5mA 50/60Hz
100MΩ

Environmental

Operating temperature
Storage temperature
Operating humidity
Storage humidity
0°C to +25°C
-20°C to +50°C
20%-85% RH, Non-condensing
10%-90% RH Non-condensing

Mechanical specification

Dimension
Weight
76.5(L)x 42.4(W)x 72.2(H)mm
140g

Type	Order code	1+	10+	25+	100+
MINI REGULATED VOLTAGE PSU	85-1683	8.93	7.88	6.83	6.04

401000

PowerPax UK

60-12 Power Supply 240V/12V 60VA

The PowerPax 60-12 is a high quality 60W enclosed switch mode power supply with full international safety approvals.

The power supply is provided with a short circuit, over voltage and over load protections as are standard and the units has been tested to 100% burned in prior to leaving the factory.



- Cooling by free air convection
- 100% full load burn-in test
- Universal AC input/full range
- Protections: Short circuit/overload /over voltage
- Fixed switching frequency at 50KHz
- Approvals: UL / CUL / TUV / CB / CE
- Manufacturers part no. **Power Pax 60-12**

Technical specification

AC input voltage range	85V to 264V AC; 120V to 370V DC
AC inrush current	Cold start, 30A at 115V AC, 60A at 230V AC
DC adjustment range	±10% rated output voltage
Overload protection	105% to 150% hiccup mode, auto-recovery
Over voltage protection	115% to 135% rated output voltage
Setup, rise, hold up time	300ms, 50ms, 80ms at full load and 230V AC
Withstand voltage	I/P-O/P: 3.0KV AC, I/P-FG: 1.5KV AC, 1minute
Working temperature	0 to 45°C @ 100%, 10°C @ 80%, 60°C @ 60% load
Safety standards	UL1012, UL60950-1, TUV EN50950-1 approved
EMC standards	EN55022 class B, EN61000-3-2, 3
Connection	EN61000-4-2, 3, 4, 5, 6, 8, 11, EN50204 5P/ 9.5mm pitch terminal block

Type	Order code	1+
60-12 Power Supply	85-3085	9.17

517849

STONTRONICS

6VDC 3A C8 Desktop SMPSU T5105ST

The Stontronics T5105ST 6VDC 3A C8 Desktop SM is a high quality power supply unit with an output voltage of 6V at 3A. The power supply has a right-angled 2.1 x 5.5 x 12mm right-angled female barrel output plug and a 2-pin IEC C8 input connector, often referred to as a Figure 8 connector.



- Switch mode supply
- Input voltage 110V to 240V AC at 50Hz to 60Hz
- High efficiency
- Fully regulated output
- Connector, 2.1 x 5.5 x 12mm right-angled female barrel
- UL/CUL, GS, CE and FCC approved

Technical specification

Type	Switch mode supply
Input voltage	110V to 240V AC at 50Hz to 60Hz
Output voltage	6V, 3A
Connector	2.1 x 5.5 x 12mm
Barrel	Right-angled female
Approvals	UL/CUL, GS, CE and FCC
Model	Stontronics T5105ST

Type	Order code	1+
6VDC 3A C8 SMPSU	90-2730	7.23

519021

RVFM

USA to UK Voltage converter 500VA

This voltage converter will transform the UK mains voltage of 220/240V AC into 110/120V AC, enabling the use of equipment designed to run on USA mains voltage to be used in the UK. The unit features surge protection up to 4500A, providing excellent protection against electrical spikes and surges.

- MOS technology absorbs any unwanted energy
- Surge protection status light
- 2x Output sockets accept 2- or 3-pin USA type plugs
- Fitted with a 1.4m, 3-core mains lead with moulded plug
- Input protected with 5A, 20 x 5mm anti-surge fuse
- Flame retardant enclosure
- Transformers encapsulated to **UL 94V-0**
- Designed and manufactured to **BS7452:1991** and **IEC989:1991**



Technical specification

Maximum load	500VA
Input	220/240V 50/60Hz
Output	110/120V 50/60Hz
Output sockets	2x 2- or 3-pin
Weight (kg)	2.62
Dimensions (mm)	110 x 110 height

Type	Order code	1+
USA/UK Converter	85-1676	83.48

80792

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Monday to Friday



Scheduled orders

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Fax your scheduled order and required dates to:



01206 751188

STONTRONICS

5V DC 1A (5W) Plug and Go SMPSU T5110ST

What a cool idea from Stontronics - a UK plug with a USB connection fitted. The Stontronics 5V DC 1A (5W) Plug and Go is the travel charger that is easy to take along. This is the most convenient way to charge your USB powered devices. This compact charger is supplied with four plug heads so you can charge devices in different countries. It is light weight and ideal for carrying with you during your journeys at home or abroad.



- Supplied complete with pack of 4 AC heads; UK, US, EU and AU
- Input Voltage: 100V to 240V AC
- Input Current: 0.2A max
- Input Frequency: 47Hz to 63Hz
- Output Current: 1A
- Output Voltage: +5V DC

Technical specification

Input	
Input voltage range	90V to 264 VAC
Input frequency	47 to 63Hz
Input current	0.2A max
Input power (with no load)	<0.3W
AC Inlet	Comes with pack of 4 AC heads - UK, US, EU and AU
Output	
Output voltage	+5V DC
Minimum load current	0.05A
Nominal load current	1A
Nominal load power	5W
Output regulation	±5%
Line regulation	±2%
Hold-up time	5mA min
Turn-on delay	2 Seconds max
Protections	Short circuit, over current and over voltage
Ripple and noise	100mV p-p maximum
Efficiency	68.17% min
DC Output style	5V DC USB outlet
Other	
Dimensions	61.89(L) x 39(W) x 32.3(H) mm max
Weight	65g Maximum
Operating temperature	0°C to 40°C
Operating humidity	20 to 85% Rh. Non-Condensing
MTBF	50,000 Hours (@80% Load)

Type	Order code	1+
Plug and Go	90-2684	3.33

5182123

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CCTV Power Supplies



Need a product urgently?

We can offer a next day, before noon, delivery service

01206 751166

PowerPax UK

PowerPax 12V DC Constant Voltage LED Power Supplies

A range of 12V DC constant voltage LED drivers from PowerPax, available in a variety of case sizes and power supplies.

- Compact housing
- Short circuit, over-current and over-voltage protection
- Screw terminal connections
- Long life
- High efficiency
- Double isolated design
- Intended for indoor use only



Technical specification

Order code	55-2676	55-2678	55-2680
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	9.6	15.6	24
Output Voltage (VDC)	12	12	12
Output current (A)	0.8	1.3	2.0
Power factor	>0.95	>0.95	>0.95
Efficiency	>83%	>85%	>86%
Weight	60g	90g	100g
Dimensions (mm)	91 x 40 x 19	98 x 45 x 28	115 x 45 x 29
Mfrs part no.	LED-DR-12V-800	LED-DR-12V-1300-20	LED-DR-12V-2000-30

Order code	55-2682	55-2694	55-2686
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	31.2	39.6	48
Output Voltage (VDC)	12	12	12
Output current (A)	2.6	3.3	4.0
Power factor	>0.95	>0.95	>0.95
Efficiency	>86%	>86%	>87%
Weight	150g	160g	250g
Dimensions (mm)	145 x 48 x 30.5	103 x 67 x 30	123 x 79 x 35
Mfrs part no.	LED-DR-12V-2600-40	LED-DR-12V-3300-51	LED-DR-12V-4000-20

Type	Order code	1+	5+	10+
9.6W	55-2676	8.95	7.95	6.95
15.4W	55-2678	10.95	9.95	8.95
24W	55-2680	13.95	12.95	10.95
31.2W	55-2682	15.95	14.95	13.95
39.6W	55-2684	18.95	17.95	16.95
48W	55-2686	21.95	20.95	18.95

519214

PowerPax UK

PowerPax 24V DC Constant Voltage LED Power Supplies

A range of 24V DC constant voltage LED drivers from PowerPax, available in a variety of case sizes and power supplies.

- Compact housing
- Short circuit, over-current and over-voltage protection
- Screw terminal connections
- Long life
- High efficiency
- Double isolated design
- Intended for indoor use only



Technical specification

Order code	55-2688	55-2690	55-2692
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	9.6	15.6	24
Output voltage (VDC)	12	12	12
Output current (A)	0.8	1.3	2.0
Power factor	>0.95	>0.95	>0.95
Efficiency	>83%	>85%	>86%
Weight	60g	90g	100g
Dimensions (mm)	91 x 40 x 19	98 x 45 x 28	115 x 45 x 29
Mfrs part no.	LED-DR-24-400-12	LED-DR-24-700-20	LED-DR-24-1000-30

Order code	55-2694	55-2696	55-2698
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	31.2	39.6	48
Output voltage (VDC)	12	12	12
Output current (A)	2.6	3.3	4.0
Power factor	>0.95	>0.95	>0.95
Efficiency	>86%	>86%	>87%
Weight	150g	160g	250g
Dimensions (mm)	145 x 48 x 30.5	103 x 67 x 30	123 x 79 x 35
Mfrs part no.	LED-DR-24-1300-40	LED-DR-24-1700-51	LED-DR-24-2000-60

Type	Order code	1+	5+	10+
9.6W	55-2688	8.95	7.95	6.95
16.8W	55-2690	10.95	9.95	8.95
24W	55-2692	13.95	12.95	10.95
31.2W	55-2694	15.95	14.95	13.95
40.8W	55-2696	18.95	17.95	16.95
48W	55-2698	21.95	20.95	18.95

519215

PowerPax UK

PowerPax 350mA Constant Current LED Drivers



These 350mA constant current LED drivers from PowerPax are available from Rapid in a variety of case sizes and with power outputs ranging from 11.2W to 49W.

- Compact housing
- Short circuit, over-current and over-voltage protection
- Screw terminal connections
- Long life
- High efficiency
- Double isolated design
- Intended for indoor use only



Technical specification	55-2700	55-2702	55-2704
Order code	55-2700	55-2702	55-2704
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	11.2	16.8	21
Output voltage (VDC)	32 max.	48 max.	60 max.
Output current (mA)	350	350	350
Power factor	>0.95	>0.95	>0.95
Efficiency	>83%	>85%	>86%
Weight	60g	90g	90g
Dimensions (mm)	91 x 40 x 19	98 x 45 x 28	95 x 43 x 21
Mfrs part no.	LED-DR-350-12	LED-DR-350-20	LED-DR-350-24

Order code	55-2706	55-2708	55-2710
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	28	36.4	49
Output voltage (VDC)	80 max.	104 max.	140 max.
Output current (mA)	350	350	350
Power factor	>0.95	>0.95	>0.95
Efficiency	>86%	>86%	>87%
Weight	100g	150g	250g
Dimensions (mm)	115 x 45 x 29	145 x 48 x 30.5	123 x 79 x 35
Mfrs part no.	LED-DR-350-30	LED-DR-350-40	LED-DR-350-60

Type	Order code	1+	5+	10+
11.2W	55-2700	8.95	7.95	6.95
16.8W	55-2702	10.95	9.95	8.95
21W	55-2704	13.95	12.95	10.95
28W	55-2706	15.95	14.95	13.95
36.4W	55-2708	18.95	17.95	16.95
49W	55-2710	21.95	20.95	18.95

519216

PowerPax UK

PowerPax 700mA Constant Current LED Drivers



These Power Pax 700mA constant current LED drivers are available from Rapid in a variety of case sizes and with power outputs ranging from 11.2W to 51.8W.

- Compact housing
- Short circuit, over-current and over-voltage protection
- Screw terminal connections
- Long life
- High efficiency
- Double isolated design
- Intended for indoor use only



Technical specification	55-2712	55-2714	55-2716
Order code	55-2712	55-2714	55-2716
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	11.2	16.8	21
Output voltage (VDC)	16 max.	24 max.	30 max.
Output current (mA)	700	700	700
Power factor	>0.95	>0.95	>0.95
Efficiency	>83%	>85%	>86%
Weight	60g	90g	90g
Dimensions (mm)	91 x 40 x 19	98 x 45 x 28	95 x 43 x 21
Mfrs part no.	LED-DR-700-12	LED-DR-700-20	LED-DR-700-24

Order code	55-2718	55-2720	55-2722
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	28	36.4	51.8
Output voltage (VDC)	40 max.	52 max.	74 max.
Output current (mA)	700	700	700
Power factor	>0.95	>0.95	>0.95
Efficiency	>86%	>86%	>87%
Weight	100g	150g	250g
Dimensions (mm)	115 x 45 x 29	145 x 48 x 30.5	123 x 79 x 35
Mfrs part no.	LED-DR-700-30	LED-DR-700-40	LED-DR-700-60

Type	Order code	1+	5+	10+
11.2W	55-2712	8.95	7.95	6.95
16.8W	55-2714	10.95	9.95	8.95
21W	55-2716	13.95	12.95	10.95
28W	55-2718	15.95	14.95	13.95
36.4W	55-2720	18.95	17.95	16.95
51.8W	55-2722	21.95	20.95	18.95

519217

PowerPax UK

PowerPax 0-10V Dimmable LED Drivers



PowerPax 12V and 24V DC dimmable LED drivers available from Rapid with power output ranging from 14.4W to 48W.

- Compact housing
- Short circuit, over-current and over-voltage protection
- Screw terminal connections
- 1 to 10VDC dimmable (turn-off at 0.5VDC signal)
- Long life
- High efficiency
- Double isolated design
- Intended for indoor use only



Technical specification	55-2724	55-2726	55-2728
Order code	55-2724	55-2726	55-2728
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	14.4	36	48
Output voltage (VDC)	12	12	12
Output current (mA)	1200	3000	4000
Power factor	>0.95	>0.95	>0.95
Efficiency	>85%	>86%	>87%
Weight	110g	160g	250g
Dimensions (mm)	132 x 44 x 23	103 x 67 x 30	123 x 79 x 35
Mfrs part no.	LED-DR-12DIM-1200	LED-DR-12DIM-3000	LED-DR-12DIM-4000

Order code	55-2730	55-2732	55-2734
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	14.4	36	48
Output voltage (VDC)	24	24	24
Output current (mA)	600	1500	2000
Power factor	>0.95	>0.95	>0.95
Efficiency	>85%	>86%	>87%
Weight	110g	160g	250g
Dimensions (mm)	132 x 44 x 23	103 x 67 x 30	123 x 79 x 35
Mfrs part no.	LED-DR-24DIM-600	LED-DR-24DIM-1500	LED-DR-24DIM-2000

Type	Order code	1+	5+	10+
12V, 14.4W	55-2724	22.95	21.95	19.95
12V, 36W	55-2726	31.95	29.95	27.95
12V, 48W	55-2728	35.95	33.95	31.95
24V, 14.4W	55-2730	22.95	21.95	19.95
24V, 36W	55-2732	31.95	29.95	27.95
24V, 48W	55-2734	35.95	33.95	31.95

519218

PowerPax UK

PowerPax Dimmable 350mA and 700mA LED Drivers



PowerPax 350mA and 700mA dimmable LED drivers available from Rapid with power output ranging from 16.8W to 51.8W.

- Compact housing
- Short circuit, over-current and over-voltage protection
- Screw terminal connections
- 1 to 10VDC dimmable (turn-off at 0.5VDC signal)
- Long life
- High efficiency
- Double isolated design
- Intended for indoor use only



Technical specification	55-2736	55-2738	55-2740
Order code	55-2736	55-2738	55-2740
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	16.8	42	49
Output voltage (VDC)	48 max.	120 max.	140 max.
Output current (mA)	350	350	350
Power factor	>0.95	>0.95	>0.95
Efficiency	85%	86%	87%
Weight	110g	160g	250g
Dimensions (mm)	132 x 44 x 23	103 x 67 x 30	123 x 79 x 35
Mfrs part no.	LED-DR-350DIM-48	LED-DR-350DIM-120	LED-DR-350DIM-140

Order code	55-2742	55-2744	55-2746
Input voltage (VAC)	230	230	230
Input frequency (Hz)	50	50	50
Output power (W)	16.8	43.4	51.8
Output voltage (VDC)	24 max.	62 max.	74 max.
Output current (mA)	700	700	700
Power factor	>0.95	>0.95	>0.95
Efficiency	85%	86%	87%
Weight	110g	160g	250g
Dimensions (mm)	132 x 44 x 23	103 x 67 x 30	123 x 79 x 35
Mfrs part no.	LED-DR-700DIM-24	LED-DR-700DIM-62	LED-DR-700DIM-74

Type	Order code	1+	5+	10+
350mA, 16.8W	55-2736	22.95	21.95	19.95
350mA, 42W	55-2738	31.95	29.95	27.95
350mA, 49W	55-2740	35.95	33.95	31.95
700mA, 16.8W	55-2742	22.95	21.95	19.95
700mA, 43.4W	55-2744	31.95	29.95	27.95
700mA, 51.8W	55-2746	35.95	33.95	31.95

519219

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PowerPax UK

PowerPax Under Cabinet LED Power Supplies

These power supply units are ideal for use with PowerPax Under Cabinet LED lighting strips.

- Five different PSUs available from 15.6W to 120W



Power	Connection (max)	Order code	1+	10+	25+
15.6W	1m	56-2470	9.50	7.95	7.38
30W	2.5m	56-2472	11.95	10.95	9.95
65W	5m	56-2474	15.95	13.95	12.95
90W	8m	56-2476	27.30	24.95	22.50
120W	10m	56-2478	44.95	39.95	37.95

519232

STONTRONICS

Plugtop Switch Mode Power Supplies

Switched mode plugtop power supplies from Stontronics. The range includes models with standard 5.5 x 12 x 2.1mm output plugs or a USB charging point.

- Switched mode plugtop power supplies
- Standard 5.5 x 12 x 2.1mm output plugs or a USB charging point



Type	Order code	1+	10+	25+
5W PSU	85-2927	6.50	6.00	5.50
5V, 1A	90-2648	3.46	3.32	3.06
9V, 0.55A	90-2649	5.00	4.80	4.42
5V, 1A	90-2650	2.91	2.79	2.57

517099

STONTRONICS

World Traveller Plug and Go SMPSU

A regulated switch mode plug-in power supply that has four interchangeable, quick release mains plug types to cover different countries.

- Four specific plug types cover over 150 countries worldwide
- High efficiency
- Overload protection
- 1.8m Output lead
- Fitted with a standard 2.1mm right angled centre positive connector
- Level B EMI filter
- **CE, CUL and TUV approved**
- **UL listed**



Type	Order code	1+	10+	25+
12V, 1.2A	90-2652	8.46	8.11	7.46

517101

STONTRONICS

Plug & Go World Traveller Switch Mode Power Supply - USB

This plug-in power supply has four interchangeable, quick release mains plug types to cover different countries, so is ideal for anyone planning to travel the world - or part of it. It includes a USB connection so you can power up laptops, cameras or other electronic devices.

- Four specific plug types cover over 150 countries worldwide
- High efficiency
- Overload protection
- USB Output connector
- Fitted with a standard 2.1mm right angled centre positive connector



- Level B EMI filter
 - **CE, CUL and TUV approved**
 - **Please Note:** Unit comes with a UK, Euro and USA AC head.
- Australian head pictured here is available as an additional requested item
- **UL listed**

Type	Order code	1+	10+	25+
5V, 1A	90-2653	7.39	7.08	6.52

517102

STONTRONICS

LCD TV/Monitor Power Supply

A 12V, 5A DC Switch Mode Power Supply ideally suited to LCD TVs and monitors. Output is via a 4-pin Mini DIN plug and mains power is via a standard IEC320 C14 kettle-style inlet.

- Input voltage 90 to 264 V AC, 47 to 63Hz
- Output voltage 12V DC
- Output current 5A max.
- Inlet: IEC320 C14 kettle style
- Output connector 4-pin Mini DIN connector (Pins 1&3 -ve, pins 2&4 +ve)
- Dimensions 114 x 47 x 32.4mm
- Please see datasheet for full specification

Type	Order code	1+	10+	25+
12V, 5A, 4-pin	90-2615	16.17	15.51	14.27

517105

STONTRONICS

Unregulated Linear 12V 1A Adaptor

An unregulated 12V 1A Mains Adaptor from Stontronics. The adaptor is ideal for applications which are not sensitive to variations in the output voltage as the output current varies.

- Unregulated 12V 1A Mains Adaptor
- Ideal for applications which are not sensitive to variations in the output voltage as the output current varies
- Linear, non-switching circuitry

Type	Order code	1+	10+	25+
12V, 1A	90-2634	5.40	5.18	4.77

517096

STONTRONICS

Regulated Linear 12V 500mA Adaptor

A regulated 12V 0.5A Mains Adaptor from Stontronics. The adaptor is ideal for applications which are sensitive to variations in the output voltage as the output current varies.

- Regulated 12V 0.5A Mains Adaptor
- Ideal for applications which are sensitive to variations in the output voltage as the output current varies
- Linear, non-switching circuitry

Type	Order code	1+	10+	25+
12V, 500mA	90-2635	5.08	4.88	4.49

517097

STONTRONICS

Adaptors with UK and European Plugs

A range of linear plugtop AC and DC power adaptors available with regulated and unregulated outputs and UK or European plugs.

- 230V AC mains input
- Regulated and unregulated outputs
- Attractive black plastic cases
- UK and European plugs
- 1.8m output leads
- 12 x 5.5 x 2.1mm output plugs
- Comply with **EN60950-1, CE, EMC** and safety requirements

Output	Country	Order code	1+	10+	25+
AC					
9V AC, 1A	UK	90-2637	5.47	5.25	4.83
12V AC, 1A	UK	90-2636	5.96	5.71	5.26
DC Unregulated					
9V DC, 1A	UK	90-2638	5.65	5.41	4.98
12V DC, 1A	UK	90-2639	6.60	6.33	5.83
DC Regulated					
5V DC, 300mA	UK	90-2640	5.65	5.41	4.98
5V DC, 1A	UK	90-2641	7.25	6.95	6.40
12V DC, 300mA	UK	90-2642	5.08	4.88	4.49
24V DC, 400mA	UK	90-2643	7.41	7.10	6.54
5V DC, 300mA	Europe	90-2644	5.16	4.94	4.55

5V DC, 1A	Europe	90-2645	6.77	6.48	5.97
12V DC, 300mA	Europe	90-2646	5.65	5.41	4.98
24V DC, 400mA	Europe	90-2647	6.60	6.33	5.83

517098

PowerPax UK

8W to 30W Twist and lock series international switch mode power supplies (PSU)

This range of high quality switch mode power supplies provides up to 30W of continuous output power. All units are supplied with a complete set of UK, Euro and USA interchangeable AC pins and have a 90 to 264V AC wide range input for world use. All units have full international safety approvals and are EuP compliant.

These products are AC to DC plug-in, Class II, single output power device with constant voltage sources.

- Up to 30W of continuous output power
- Interchangeable AC heads
- High quality patented design and twist to lock mechanism
- Safety approved



Technical specification						
Output power	Input (V)	Output (V)	Output (A)	Input	Output	Order code
30W	90-264vac	5vdc	4 amp	UK, EU & US pins	R/A 2.1 x 5.5 x 12mm	85-3075
24W	90-264vac	12vdc	2 amp	UK, EU & US pins	R/A 2.1 x 5.5 x 12mm	85-3076
30W	90-264vac	12vdc	2.5 amp	UK, EU & US pins	2.1 x 5.5 x 12mm	85-3077

Type	Order code	1+	10+	25+	100+
5V DC 4A PSU	85-3075	15.76	13.92	12.61	11.03
12V DC 2A PSU	85-3076	13.13	11.56	10.51	9.46
12V DC 2.5A PSU	85-3077	15.76	13.66	12.61	11.56

400395

PowerPax UK

200 Watt Desktop switch mode power supplies (PSU)

A range of high quality safety approved 200W desktop switch mode power supplies.

These switch mode power supplies meet Energy Star requirements (EuP stage 2 27 April 2011 / CEC Energy Efficiency Level V

requirements) and have a wide range 90V to 264V AC 47/63Hz input for world use.

They also come with short circuit, over voltage and over current and over temperature protections as standard.

- Meet Energy Star Requirements
- High Efficiency and reliability
- Fully safety approved
- 90-264 V AC input for world use



Technical specification						
Output power	Input (V)	Output (V)	Output (A)	Input	Output	Order code
180W	90-264V AC	12V AC	15A	3-pin IEC	Din connector	85-3078
200W	90-264V AC	24V AC	8.33A	3-pin IEC	Din connector	85-3079

Type	Order code	1+	10+	25+	100+
12V DC 15A PSU	85-3078	57.79	52.53	47.28	45.18
24V DC 8.3A Desktop PSU	85-3079	57.79	52.53	47.28	45.18

400396

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PowerPax UK

60W to 65W Desktop switch mode power supply (3-pin IEC input)

A range of high quality, ultra compact 65W desktop switch mode power supplies with full international safety approvals including CB, UL, cUL, BSMI, PSE, GS, RCM, CE and LPS. These switch mode power supplies meet Energy Efficiency Level IV and CEC requirements and have a wide range 90-264V AC 47/63Hz input for world use. They also come with short circuit, over voltage and over load current protection as standard.

- Input 90V to 264V AC 47/63Hz
- Output 12V DC to 24V DC
- Dimensions: 115 x 53 x 38mm
- Efficiency 85% min (meets Energy Efficiency Level IV and CEC)



Technical specification					
Output power	Input (V)	Output (V)	Output (A)	Order code	
60W	90 to 264V DC	12V DC	5.0A	85-3080	
65W	90 to 264V DC	24V DC	2.7A	85-3081	
40 to 65W	100 to 240V DC	12V DC	3.3A	85-3082	
Type	Order code	1+	10+	25+	100+
12V DC 5A PSU	85-3080	15.23	14.19	13.13	11.56
24V DC 2.7A Desktop PSU	85-3081	15.23	14.19	13.13	11.56
Type	Order code	1+	5+	10+	
40W to 65W Desktop PSU	85-3082	15.23	14.19	13.13	

400397



12W Interchangeable plugtop/desktop switch mode power supply

An innovative range of 12W regulated output switch mode power supplies that feature the unique ability to change from being a plugtop unit to a desktop unit. A series of supplied connector plates (UK, US, Euro and Australian types) enables the unit to be used as a plugtop unit or, use the blank plate and the figure of eight inlet to utilise the unit as a desktop power supply. The output side of the power supply is fitted with a 1.8m cable and supplied with eight of the most common DC connectors. This unit is ideal for many applications including use in OEM products.

- For use as a desktop or plugtop unit
- Supplied with eight of the most common DC output connectors
- Regulated output
- Overvoltage protection
- Approved to international standards and CE marking
- PSE and SAA approved for Japan and Australia



Technical specification		
Input voltage	90V to 264V AC 50/60Hz	
Output	85-3110	5V DC 2.5A
	85-3111	9V DC 1.2A
	85-3112	12V DC 1A
	85-3113	15V DC 0.8A
	85-3114	24V DC 0.5A
Ripple max.	1%	
Dimensions (excl. plug)	77 x 46.5 x 37mm	
Output connectors		
1.3x3.4 x 11mm right angled	1.7x4.7x9.5mm straight	
2.1x5 x 12mm right angled	0.7x2.35x9.5mm straight	
2.1 x5.5 x 12mm right angled	3x 6.3x14.5mm straight	
1.7x4 x 9.5mm right angled		
2.5x5.5 x 12mm right angled		

81327



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STONTRONICS

UK & Euro Plugtop SMPSU

A range of high quality low cost range of UK plugs. The EU plug has been designed for global use, and is short circuit and overload proof.

- Universal AC input
- Fixed output voltage
- 2.1mm C +VE DC connector
- RoHS Compliant
- High reliability
- Efficiency level IV
- CE, UL and TUV approved



Technical specification					
Voltage	Current	Part No.	Order code		
UK Wall plug					
5VDC	2.5A	T4424ST	85-3735		
9VDC	1.67A	T4425ST	85-3736		
12VDC	1.25A	T4180ST	85-3737		
15VDC	1.2A	T4426ST	85-3739		
18VDC	1.0A	T4427ST	85-3740		
24VDC	0.83A	T4428ST	85-3741		
Euro Wall Plug					
12VDC	1.25A	T4344ST	85-3738		
Type	Order code		1+	10+	25+
5V, 15W UK	85-3735		6.97	6.13	5.30
9V, 15W, UK	85-3736		6.97	6.13	5.30
12V, 15W, UK	85-3737		6.97	6.13	5.30
12V, 15W EU	85-3738		6.97	6.13	5.30
15V, 15W, UK	85-3739		6.97	6.13	5.30
18V, 15W, UK	85-3740		6.97	6.13	5.30
24V, 15W, UK	85-3741		6.97	6.13	5.30

123393

PowerPax UK

15W Mini plugtop switch mode PSU

A range of high quality plugtop PSUs that offer an output through the moulded female barrel connector.

- 15 Watt continuous
- Input voltage of 100-240V AC
- 5V, 6V, 9V, 12V, 15V and 24V DC versions available
- 2.1 x 5.5 x 12mm female barrel
- +ve centre polarity
- Short circuit and over voltage protection
- CE marked and safety approved



Technical specification		
Dimensions (h x d x w) (mm)		64 x 50 x 49.2 including pins (UK)
Input voltage		100V to 240V; 50-60Hz; 0.4A
Output barrel (mm)		2.1 x 5.5 x 12
Output	85-2900	5V DC 2.5A max.
	85-2906	6V DC 2.8A max.
	85-2901	9V DC 1.6A max.
	85-2902	12V DC 1.25A max.
	85-2903	15V DC 1.0A max.
	85-2904	24V DC 0.65A max.
Voltage protection		Short circuit and over voltage protection
Weight		116g approx.
Approved		CE marked and approved

Voltage	Current	Order code	1+	10+	25+	100+
5V DC	2.5A	85-2900	9.97	8.02	7.36	6.63
6V DC	2.8A	85-2906	9.97	8.02	7.36	6.63
9V DC	1.6A	85-2901	9.97	8.02	7.36	6.63
12V DC	1.25A	85-2902	9.58	7.68	7.02	6.41
15V DC	1.0A	85-2903	9.97	8.02	7.36	6.63
24V DC	0.65A	85-2904	9.97	8.02	7.36	6.63

71059

STONTRONICS

15W Mini plugtop PSU

A range of high quality plugtop PSUs that offer outputs via a pack of seven common connectors (including 2.1mm and 2.5mm types).

- Input voltage of 180-264V AC
- Short circuit, over voltage and over current protection
- Efficiency of 75% at full load
- Dimensions 53 x 80 x 41mm
- CE approved



Voltage	Current	Order code	1+	10+	25+
5V DC	2.6A	85-3900	14.31	11.91	11.08
9V DC	1.5A	85-3901	14.31	11.91	11.08
12V DC	1.25A	85-3902	14.31	11.91	11.08
15V DC	1A	85-3903	14.31	11.91	11.08
24V DC	0.75A	85-3904	14.31	11.91	11.08

74992



ACPS-PC Laptop adaptor power supply

The ACPS-PC is a universal solution for a variety of different laptop and notebook computers. Whether it is for use as a replacement, for a further desk in another office or at home.

- External AC notebook power supply for most laptop PCs
- Output voltage selectable via rotary switch 15V,16V, 18V, 19V, 20V, 22V DC
- Wide range AC input 100-240V AC
- 1.8m (approx) output lead with a set of 6 DC output plugs to fit most laptop PCs
- Output plugs reverse connect protected, centre positive polarity
- Short circuit and over temperature protection
- Fused input protection
- Fully regulated output
- Double insulation and protection to IP20
- EuP Compliant
- Approval: **CE** marked



Type	Order code	1+
ACPS-PC Laptop Adaptor	18-3974	56.16

400996



DCPS 2460 DC laptop adaptor power supply 120W

Universal laptop power supply with adjustable 15-24V output. Input for use in cars. Including 6 secondary plugs to fit most laptop PCs.

- External DC power supply for most laptop PCs
- Output voltage selectable via rotary switch 15V, 16V, 18V, 19V, 20VDC
- DC Input 12-13.8V via car cigarette socket
- DC Power LED indication
- 1.8m (approx) output lead with a set of 6 DC output plugs to fit most Laptop PCs
- Output plugs reverse connect protected, centre positive polarity
- Short circuit and over temperature protection
- Fused input protection
- Fully regulated output
- Double insulation and protection to IP20
- Approvals: **CE**, E-marked for vehicle use



Type	Order code	1+
DCPS 2460 DC Notebook Adaptor	18-3975	25.88

400997



18W Interchangeable plugtop/desktop switch mode power supply

An innovative range of 18W regulated output switch mode power supplies that feature the unique ability to change from being a plugtop unit to a desktop unit. A series of supplied connector plates (UK, US, Euro and Australian types) enables the unit to be used as a plugtop unit or, use the blank plate and the IEC inlet to utilise the unit as a desktop power supply. The output side of the power supply is fitted with a 1.8m cable and supplied with eight of the most common DC connectors. This unit is ideal for many applications including use in OEM products.



- For use as a desktop or plugtop unit
- Supplied with eight of the most common DC output connectors
- Regulated output
- Overvoltage protection
- Approved to international standards and **CE** marking
- **PSE** and **SAA** approved for Japan and Australia

Technical specification
Input voltage 90V to 264V AC 50/60Hz
Output **85-3115** 5V DC 3A
85-3116 9V DC 2A
85-3117 12V DC 1.5A
85-3118 15V DC 1.2A
85-3119 24V DC 0.75A
Ripple max. 1%
Dimensions (excl. plug) 77 x 46.5 x 37mm

Output connectors
1.3 x 3.4 x 11mm right angled 1.7 x 4.7 x 9.5mm straight
2.1 x 5 x 12mm right angled 0.7 x 2.35 x 9.5mm straight
2.1 x 5.5 x 12mm right angled 3 x 6.3 x 14.5mm straight
1.7 x 4 x 9.5mm right angled
2.5 x 5.5 x 12mm right angled

Type	Rating	Order code	1+	10+	25+	100+
18W SMPS	5V 3A	85-3115	11.58	10.14	9.35	8.64
18W SMPS	9V 2A	85-3116	11.58	10.14	9.35	8.64
18W SMPS	12V 1.5A	85-3117	11.58	10.14	9.35	8.64
18W SMPS	15V 1.2A	85-3118	11.58	10.14	9.35	8.64
18W SMPS	24V 0.75A	85-3119	11.58	10.14	9.35	8.64

81328



31W Interchangeable plugtop/desktop switch mode power supply

An innovative range of 31W regulated output switch mode power supplies that feature the unique ability to change from being a plugtop unit to a desktop unit. A series of supplied connector plates (UK, US, Euro and Australian types) enables the unit to be used as a plugtop unit or, use the blank plate and the IEC inlet to utilise the unit as a desktop power supply. The output side of the power supply is fitted with a 1.8m cable and supplied with eight of the most common DC connectors. This unit is ideal for many applications including use in OEM products.



- For use as a desktop or plugtop unit
- Supplied with eight of the most common DC output connectors
- Regulated output
- Overvoltage protection
- Approved to international standards and **CE** marking
- **PSE** and **SAA** approved for Japan and Australia

Technical specification
Input voltage 90V to 264V AC 50/60Hz
Output **85-3120** 5V DC 4A
85-3121 9V DC 2.5A
85-3122 12V DC 2.5A
85-3123 15V DC 2A
85-3124 24V DC 1.25A
Ripple max. 1%
Dimensions (excl. plug) 89 x 56 x 41mm

Output connectors
1.3 x 3.4 x 11mm right angled 1.7 x 4.7 x 9.5mm straight
2.1 x 5 x 12mm right angled 0.7 x 2.35 x 9.5mm straight
2.1 x 5.5 x 12mm right angled 3 x 6.3 x 14.5mm straight
1.7 x 4 x 9.5mm right angled
2.5 x 5.5 x 12mm right angled

Type	Rating	Order code	1+	10+	25+	100+
31W SMPS	5V 4A	85-3120	13.14	11.47	10.58	9.80
31W SMPS	9V 2.5A	85-3121	13.14	11.47	10.58	9.80
31W SMPS	12V 2.5A	85-3122	13.14	11.47	10.58	9.80
31W SMPS	15V 2A	85-3123	13.14	11.47	10.58	9.80
31W SMPS	24V 1.25A	85-3124	13.14	11.47	10.58	9.80

81329



AC/DC and AC/AC Unregulated plugtop PSUs

A range of high quality AC/DC and AC/AC plugtop PSUs each offering a dedicated single output.

- Input voltage 230V AC
- Internal thermal fuse
- C+ Connector, 2.1 x 5.5 x 12mm female barrel
- **CE** approved



Voltage	Current	Order code	1+	10+	25+
AC/DC					
9V DC	300mA	85-3910	7.74	6.57	6.29
9V DC	600mA	85-3911	7.74	6.57	6.29
12V DC	500mA	85-3914	7.74	6.57	6.29
AC/AC					
24V AC	500mA	85-3924	6.52	6.13	

74993



Technical data
Contact us directly on
01206 751166



or download from our website
www.rapidonline.com

TruConnect

DC Power plug adaptor

DC power plug adaptors that will adapt the most common of DC power plug sizes. Will work with most AC adaptors.

- Nickel plated contacts



Technical specification				
Order code	Input socket	Output plug		
85-2916	2.1mm	2.5mm	2.1mm	
85-2917	2.5mm	2.5mm	2.1mm	
85-2918	2.1mm	2.5mm	1.3mm	

Type	Size	Order code	1+	10+	100+	500+
Adaptor	2.1 to 2.5mm	85-2916	0.946	0.794	0.672	0.591
Adaptor	2.5 to 2.1mm	85-2917	0.883	0.746	0.641	0.57
Adaptor	2.1 to 1.3mm	85-2918	0.977	0.883	0.82	0.778

75712

STONTRONICS

18W Plug and Go Multi PSU (EUP)

A range of regulated switch mode plug-in power supplies that have four interchangeable, quick release mains plug types to cover different countries.

- Can be operated by voltages from 90V AC to 240V AC
- Four specific plug types cover over 150 countries worldwide
- High efficiency
- Overload protection
- 1.8m Output lead
- Fitted with a standard 2.1mm right angled centre positive connector
- Level B EMI filter
- CE, CUL and TUV approved
- UL listed



Technical specification	
Plug types	UK, Europe, USA, Australia
Input voltage	90V to 240V AC
Frequency	47Hz to 63Hz
Line regulation	2%
Load regulation	5%
Efficiency	68%
Output ripple	100mV pk to pk
Hold up time	10ms
Operating temperature	0°C to +40°C

Type	Rating	Order code	1+	10+	25+
18W PSU	5V 3.6A	85-2934	14.42	12.47	11.70
18W PSU	6V; 18W	85-3710	10.58	9.47	8.64
18W PSU	7V; 18W	85-3715	10.58	9.47	8.64
18W PSU	9V 2A	85-2935	12.15	11.25	9.50
18W PSU	12V 1.5A	85-2936	12.15	11.25	9.50
18W PSU	15V 1.2A	85-2937	14.00	12.00	11.00
18W PSU	18V 1A	85-2938	14.00	12.00	11.00
18W PSU	24V 750mA	85-2939	14.15	12.25	11.15

74407

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PowerPax UK

36W Voltage adjustable multi-output plugtop PSU

This innovative plugtop switch mode power supply will supply any one of twenty fully regulated voltages by means of a resistor that pushes into the side of the unit.

- Output voltage cannot be changed by mistake
- Output voltage between 5V DC and 24V DC in 1V increments
- Supplied with UK, European, USA and Australian push-on input pins
- Standard output connector pack includes six connector types
- CB, CE, GS approved



Technical specification		
Input voltage	100 to 240V AC 50/60Hz	

Output voltage	Output current	Output voltage	Output current
5V	3.8A	15V	2.4A
6V	3.7A	16V	2.2A
7V	3.6A	17V	2.1A
8V	3.5A	18V	2.0A
9V	3.4A	19V	1.88A
10V	3.3A	20V	1.8A
11V	3.2A	21V	1.7A
12V	3.0A	22V	1.63A
13V	2.7A	23V	1.56A
14V	2.5A	24V	1.5A

Output connectors			
Type A	2.5mm male	Type B	3.5mm male
Type D	2.1 x 5.5 x 12mm female	Type G	2.5 x 5.5 x 12mm female
Type H	1.3 x 3.5 x 10mm female	Type N	1.5 x 5.5 x 12mm female

Type	Order code	1+	10+	25+	100+
36W Plugtop PSU	85-2908	20.60	16.58	15.38	14.15

76992

DC/DC & DC/AC Converters

RVFM

12V DC/230V AC Inverters

A range of regulated DC-to-AC inverters to power 230V AC equipment from a suitable 12 or 24V car or lorry battery. Due to their high performance (>90%), the inverters generate very little heat. The high stability of the output frequency makes them equally suitable to power sensitive devices. The output is a modified sine wave so is suitable for powering domestic appliances such as videos, portable TVs etc. It is important to ensure that the power rating of the appliance is less than the continuous power of the inverter.

- Output short-circuit protection
- Input polarity protection (fuse)
- High DC input voltage protection
- Battery low alarm
- Battery low shutdown
- Overload and over temperature protection
- Available in 12 and 24V options



Technical specification						
Power rating	150W	300W, 12V	600W	1000W	2500W	300W, 24V
Peak power	300W	600W	1000W	2000W	5000W	600W
Standby current	<0.36A	<0.36A	<0.6A	<0.4A	<0.7A	<0.18A
Output voltage		230V ±10%				
Wave form		50Hz modified sine				
DC input		10V to 15V DC			20V to 30V DC	
Battery alarm		at 10.5V				at 21V ± 0.8V
Auto shutdown		at 10.0V				at 20V ± 0.8V
Efficiency		90%				
Input fuse	15A	15A/15A	25A	15A	30A	20A/10A
Input connections	cigar lighter plug	cigar lighter plug + croc clips	crocodile clips	crocodile clips	Ring terminal	cigar lighter plug + croc clips
Cooling fan	none	1	1	1	1	1
Dimensions (mm)	122x73x70	163x90x75	280x173x65	320 x 210 x 85	430x210x159	163x90x75

Type	Order code	1+	5+	10+
12V, 150W Inverter	85-1970	18.96	17.37	14.86
12V, 300W Inverter	85-1972	29.16	27.01	24.09
24V, 300W Inverter	85-1955	29.16	27.01	24.09
12V, 600W Inverter	85-1974	54.33	47.15	40.49
12V, 1000W Inverter	85-1956	104.55	89.18	80.98
12V, 2500W Inverter	85-1957	264.84	237.68	224.10

66840



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Uninterruptable Power Supplies

STONTRONICS

B60 Series

The Stontronics range of the B60 series utilises digital Line Interactive (VI) technology with a pseudo sine wave output making it perfect for smaller backup needs such as CCTV, EPOS, small office hardware, security or a simple PC workstation.

The Stontronics B60 UPS range includes an AVR (Automatic Voltage Regulator) as standard, which enables the UPS to regulate a precise output voltage without switching to battery power, even if the input voltage fluctuates by as much as 30% from normal. As a result, this wide input voltage feature extends battery life ensuring the batteries are in prime condition and fully charged to offer maximum runtime should the mains power completely fail.

The unit features RJ11 and RJ45 filtering for connection of telephone, modem and router lines, separate IEC power outlets for surge suppression only and an LCD screen displaying connected load and battery charge levels.

The free download of intelligent shut-down and monitoring software enables your PC to communicate with the UPS via the USB port and cable provided with the product. The software enables UPS start-up and shut-down programming, data and history logging and email messaging (alerting users to the UPS status across the local network).

The software is also compatible with most operating systems, providing a safe shut down in the event of an extended power failure. Additionally the UPS automatically restarts upon power being restored.

- Line interactive (VI) technology with AVR
- Cold start feature
- Inbuilt protection for modem and telephone
- Automatic start
- LCD Display
- USB Connectivity
- Intelligent shutdown and monitoring software

Technical specification				
Model	B60-800	B60-1000	B60-1500	60-2000
Power (VA) max	800	1000	1500	2000
Power (W)	480	600	900	1200
Order code	90-2860	90-2861	90-2862	90-2863
Input	220/230/240V AC			
Input voltage	162-290V AC			
Input frequency	50/60Hz (auto sensing)			
Output				
Voltage regulation	±10% (battery mode)			
Frequency regulation	±1Hz (battery mode)			
Transfer time typical	2 to 6ms; 10ms max			
Waveform simulated	Sinewave (battery mode)			
Protection				
Full protection	Overload, battery discharge and overcharge protection			
Display				
LCD Display	AC Mode, battery mode, load level, battery level, input voltage, output voltage, overload, fault and battery low			
Features				
Battery	Off-mode charging, AVR, auto-restart, cold start, USB, RJ11 and 45 Filters, LCD Display			
Type and number	12V 9Ah x 1	12V 7Ah x 2	12V 9Ah x 2	12V 9Ah x 2
Charging time	4 to 6 hours recovery to 90%			
Mechanical				
Dimensions (WxDxH)	90 x 285 x 140	146 x 350 x 160	146 x 397 x 205	146 x 397 x 205
Net weight	4.9kg	8 kg	11.1kg	11.5kg
Battery protected outputs	3	3	5	5
Surge protected outputs	1	1	1	1
Environment				
Operating temperature range	0°C to - 40°C			
Humidity	0 to 90% Relative Humidity (non condensing)			
Software				
Connection	USB Connectivity			
Operating System Supports	Windows 2000/2003/XP/Vista/2008, Windows 7, Linux, Unix and MAC			
Type	Order code		1+	
800VA UPS B60-800	90-2680		58.94	
1000VA UPS B60-1000	90-2681		91.99	
1500VA UPS B60-1500	90-2682		136.27	
2000VA UPS B60-2000	90-2683		154.52	

518211



Trust

1300VA Management UPS PW-4130M

The 1300VA Management power supply (UPS) has been designed to keep electronic devices running when mains power is down- Manageable via USB or serial port for status overview, remote monitoring, etc. (cables and software included)- Up to 70 minutes of back-up time to save important data or to prevent damaged hardware-



Also provides protection against common power problems such as voltages sags and spikes- 4 protected outputs for PC, monitor and other important peripherals-

- 1300 VA uninterruptible power supply (UPS) to keep electronic devices running when mains power is down
- Manageable via USB or serial port for status overview, remote monitoring, etc. (cables and software included)
- Up to 70 minutes of back-up time to save important data or to prevent damaged hardware
- Also provides protection against common power problems such as voltages sags and spikes
- 4 protected outputs for PC, monitor and other important peripherals
- Extra reliability for connected devices thanks to RFI filter, surge protection, AVR function and modem/fax/phone protection
- 20.000 Euro warranty on connected equipment (Check conditions for details)
- Equipped with convenient user replaceable battery and automatic circuit breaker
- Supplied with UPS unit, 2x loop through power cables, USB cable, RS-232 cable, CD-ROM with management software and manual, Warranty conditions for connected equipment, User's guide
- System requirements: Mains power connection, For UPS management, Windows 7, Vista, XP, 2000 or 2003, CD-ROM drive, USB port or COM port (RS-232)

Technical specification		
Type	Line-interactive UPS	
Output capacity	1300VA/600W	
Input voltage nom.	230V AC	
Input voltage range	170 to 280V AC	
Input frequency	47 to 63Hz	
Output voltage	230V AC	
Output frequency	50 to 60Hz	
Frequency regulation	±1Hz	
Surge current protection max.	150J	
Surge current max.	6.5kA	
Transfer time tp.	<3ms	
Battery type	2x CSB GP1270(F2), 12V/7AH	
Backup time	38 to 70mins.	
Charge time	8hrs. to 90% after full discharge	
Operating temperature range	0°C to +40°C 90% RH	
Sound level	<40dB	
Weight	13.8kg	
Type	Order code	1+
1300VA UPS	19-8357	122.49

80862



Net dialog UPS

An Uninterruptible Power Supply (UPS) for the power protection of personal computers, point of sale terminals, key phone systems and small to medium sized file servers.

- Ideal solution for small office hardware requiring power protection from a wide range of power problems
- Robust format product with advanced communications capabilities
- Ability to support small loads for long runtime periods
- Line Interactive (VI) technology with AVR and filters for atmospheric disturbance suppression
- Mains power supply stabilisation and filtering
- Cold start capability: the UPS can power up without a mains supply present
- Auto restart at power-up
- Integrated protection for telephone/modem lines
- High reliability with built-in automatic battery test feature



Technical specification	
Input	
Rated voltage	220-230-240V AC
Voltage range	230V AC (±25%)
Frequency	50/60Hz auto sensing
Output	
Voltage on mains operation	230V AC (-8%, +10%)
Voltage on battery operation	230V AC (±5%)
Frequency on battery operation	50 or 60Hz (±0.5%)
Transfer time	2ms
Waveform from battery/inverter	Pseudo sine wave
Batteries	
Type	VRLA AGM maintenance-free lead-acid
Recharge time	4-6 hours
Environmental	
Weight	ND 80 14kg ND 100 14.5kg

Dimensions	ND 80 180(H)x140(W)x375(D)mm ND 100 214(H)x140(W)x410(D)mm
Protection	Battery low - overcurrent - short-circuit
Tel/Modem protection	RJ45 connectors
Communication	RS232 port
Safety compliance	EN 62040-1-1 and Directive 73/23, 93/68 EEC, EN 62040-3
EMC conformance	EN 62040-2 and Directive 89/336, 192/31 EEC, 93/68 EEC
Surge capability	IEC 801-5
Noise	
Colour	Metallic grey (silver)
Operating temperature	0°C to +40°C
Storage temperature	-15°C to +45°C
Relative humidity	<95% non condensing

Type	Order code	1+	5+
ND 80	19-8964	139.21	
ND 100	19-8966	172.57	153.64
Net dialog	19-8981	302.38	

77285



Trust 1000VA UPS Mains Power Protector

Avoid damaging expensive hardware, losing your work and save your important data when mains power fails with this reliable 1000 VA UPS mains power protector for office and home usage.

- Euro 20,000 warranty on connected equipment (Warranty conditions included)
- 2 battery protected outputs, up to 45 minutes of back up time (depending on load)
- In total 3 surge protected outputs for PC, monitor and other important peripherals
- Extra reliability for connected devices thanks to RFI filter, surge protection, AVR function and modem/fax/phone protection
- Clear optical and acoustic indicators for power source and low battery

Package contents

- UPS unit
- 2x loop through power cables
- User guide

System requirements

- Wall power connection

Type	Order code	1+
1000VA UPS	19-8355	52.00

400557



Rated voltage selectable	220, 230 or 240V AC $\pm 1.5\%$
Waveform	Sine wave
Voltage distortion	
Frequency	50 or 60Hz auto sensing
Crest factor 3 : 1	
Environmental	
Weight	DLP 100 8kg DLP 150 19kg DLP 100 231(H)x158(W)x400(D)mm DLP 100 231(H)x158(W)x500(D)mm
Dimensions	
Operating temperature	0°C to 40°C
Relative humidity	Protection Overload
Communication	RS232 + communication interface slot
Compliance	EN 62040-1 EMC EN 62040-2 Directives 73/23-93/68-89/336 EEC EN 62040-3
Surge capability	3KA 8/20 μ s
Colour	Metallic grey (silver)

Type	Order code	1+	5+
DLP 100	19-8974	668.15	618.03

77287



Dialog plus rack UPS

A 48cm (19in) rackmount Uninterruptible Power System (UPS) for medium sized file servers and telecomms switches.

- Interactive (VI) technology
- Load is powered from the mains through an Automatic Voltage Stabilizer (AVS)
- Incorporates a filtered socket for PC network and telephone line cable protection
- Powered continuously by the inverter with an EMI filtered stabilised and regulated sine wave supply
- Input and output EMI filters considerably increase the immunity of the load to mains disturbances and surges
- Can power the load for long periods
- Provides sufficient runtime to allow shut down of the protected computer systems
- Advanced digital on-line (VFI) technology (EN50091-3)
- Spike, noise, sag, surge and brownout protection
- High level surge immunity (6kV to IEC801-5)
- Auto restart on power up (programmable)
- Power factor correction with sinusoidal input
- Low power consumption
- Programmable auto power Off mode - to switch off under no load conditions
- Low maintenance (optional maintenance bypass)
- High reliability with safe failure to mains on system fault or overload
- Cold-start facility to allow the UPS to power up without a mains supply
- PowerShare output socket management on 700VA and 1kVA models
- Built-in battery test facility



Technical specification

Input	
Rated voltage	220 to 230 to 240V AC
Minimum input range	140V from 70 to 80% of load/160V from 80% to 100% of load
Maximum input range	300V
Rated frequency	50/60Hz ± 5 Hz
Rated current	3.5A
Power factor	>0.97
By Pass	
Voltage tolerance static	$\pm 1.5\%$
Frequency tolerance	$\pm 0.5\%$
Batteries	
Type	VRLA AGM Maintenance-free lead-acid
Recharge time	4 hours
Output	
Rated voltage	220 or 230 or 240V AC selectable $\pm 1.5\%$
Waveform	Sine wave
Voltage distortion	
Frequency	50 or 60Hz selectable
Frequency tolerance	$\pm 0.5\%$
Crest factor	(Ipeak/Irms) 3 : 1 (up to 100% of load)
Output sockets	4 IEC 320 10A 4 IEC 320 10A
Environmental	
Weight	DLPR 100 16kg DLPR 100 21kg DLPR 100 30kg
AC/AC	Efficiency 90%
Communication	RS232 + communication interface slot
Operating temperature	0°C to +40°C, ideal for battery 15°C to +25°C
Relative humidity	Protection Overload
Safety compliance	EN 62040-1 EMC EN 62040-2 Directives 73/23-93/68-89/336 EEC
Surge capability	3KA 8/20 μ s
Colour	Dark grey

Type	Order code	1+	5+
DLPR 220	19-8980	830.74	775.05

77288



Dialog plus UPS

An Uninterruptible Power Supply (UPS) for the power protection of small to medium sized file servers, PBX systems, and point of sale back office systems.

- Ideal solution for computer and telecoms hardware requiring protection from a wide range of power problems
- Sine wave supply
- Advanced communications capabilities and long runtimes
- Accepted for use on Network Rail infrastructure - **certificate number PA05/01765** - as a telecoms UPS
- In on-line mode the load is powered continuously by the inverter to remove sags, surges and brownouts
- Simply draws power from the internal battery to provide complete protection
- Reliable, stabilised, filtered voltage double on-line conversion technology
- High overload capability (up to 150%)
- Auto restart when mains power returns (programmable)
- GS-TUV certification
- Power factor correction with sinusoidal input to ensure a low impact on the mains supply (UPS input power factor, close to 1)
- Wide input voltage range (110-300V AC) to reduce battery usage
- Integrated protection for PC networks and telephone line/modem connections RJ45-RJ11
- Option to extend the back up time to several hours
- Programming of operating functions via software
- Timer for scheduled shut-down (software programmable)
- High level reliability of the batteries (automatic and manual test)
- High level reliability of the UPS (full microprocessor control)
- Breaker based input protection



Technical specification

Input	
Rated voltage	220-230-240V AC
Minimum voltage range	110V up to 60% of load/120V from 60% to 70% of load 140V from 70 to 80% of load/160V from 80% to 100% of load
Maximum voltage	300V AC
Rated frequency	50/60Hz ± 5 Hz
Power factor	>0.97
Input current	Sine wave
By Pass	
Voltage range	180-264V AC
Frequency range	Selected frequency ± 5 Hz
Batteries	
Recharge time	2-4 hours
Type	VRLA AGM maintenance-free lead-acid
Output	



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Computer Power Adaptors



Plug and Go 125W Notebook Power Adapter UK 16895

Not only does the Trust Plug and Go 125W Notebook Power Adapter with USB Power Port work with most laptops, it even powers mobile devices such as mobile phones, smartphones, PDA, iPhone iPod, MP3 and more.

This well branded multi functional 125W universal notebook power adapter is ideal for use at home and the office with that extra USB connection to charge your devices.

- Wall power
- 125W
- 10 swappable notebook connectors
- Compatible brands include: Acer; Fujitsu; Packard Bell; Asus; HP; Samsung; Compaq; IBM; Sony; Dell; Lenovo and Toshiba
- Plug and Go automatic setup: easy and safe
- USB connection
- For notebook, iPhone or smartphone and other USB devices
- Package contents: Power adapter, power cable, 10 swappable notebook tips, carry bag and users guide
- System requirements: Wall power connection, notebook with compatible power rating and connection
- For USB charge function: Use the USB charge cable supplied with your portable device

PLEASE NOTE:

How much power does your notebook need?
The notebook power adapter must be able to supply sufficient power to the notebook. Power is specified in number of Watts (W), e.g. 65W or 90W.
Important: always use a notebook power adapter that has equal or higher power output than the notebook requires. E.g., on a 90W notebook you can use a 90W or 120W adapter but not a 70W adapter.
Follow these steps:
The power requirements are usually specified in Watts (W) on the original power adapter that was included with your notebook. Common power outputs are 65W and 90W.

Technical specification		
Item number:	16891	
EAN-code:	8713439168914	
Warranty term:	2 years	
Product size:	62(H) x 148(W) x 35(D) mm	
Product weight:	672g	
Type	Order code	1+
125W Notebook Adapter	90-2714	32.29

518221



Plug and Go XS 90W Notebook Power Adapter UK 17470

The Trust Plug and Go XS 90W Notebook Power Adapter will work with most notebooks. This notebook power adapter from the well known company of Trust is ideal for use at home and the office as a secondary adapter, or for use as a replacement adapter.notebook.

- Wall power
- 90W
- Extra small design
- 10 swappable notebook connectors
- Compatible with brands: Acer; Fujitsu; Packard Bell; Asus; HP; Samsung; Compaq; IBM; Sony; Dell; Lenovo and Toshiba
- Plug and Go automatic setup: easy and safe
- Package contents: Power adapter, Power cable, 10 swappable notebook connectors
- Users guide
- System requirements
- Wall power connection
- Notebook with compatible power rating and connection

PLEASE NOTE:

How much power does your notebook need?
The notebook power adapter must be able to supply sufficient power to the notebook. Power is specified in number of Watts (W), e.g. 65W or 90W.
Important:
always use a notebook power adapter that has equal or higher power output than the notebook requires. E.g., on a 90W notebook you can use a 90W or 120W adapter but not a 70W adapter.
Follow these steps:
The power requirements are usually specified in Watts (W) on the original power adapter that was included with your notebook. Common power outputs are 65W and 90W.
When the output power is only specified in Volts (V) and Amperes (A), multiply those numbers to get the power output in Watts (W). For example, if the output power is: 18,5V x 3,5A = 64,75W (rounded off to 65W).
If the original adapter is missing then check for a label on the notebook, check the user manual or contact the manufacturer of the notebook.



Technical specification		
Item number:	17469	
EAN-code:	8713439174694	
Warranty term:	2 years	
Product size:	31(H) x 119(W) x 55(D) mm	
Product weight:	522g	
Type	Order code	1+
90W Notebook Adapter	90-2715	26.65

518222



Plug and Go XS 90W Notebook Power Adapter UK 17470

The Trust Plug and Go XS 90W Notebook Power Adapter will work with most notebooks. This notebook power adapter from the well known company of Trust is ideal for use at home and the office as a secondary adapter, or for use as a replacement adapter.notebook.

- Wall power
- 90W
- Extra small design
- 10 swappable notebook connectors
- Compatible with brands: Acer; Fujitsu; Packard Bell; Asus; HP; Samsung; Compaq; IBM; Sony; Dell; Lenovo and Toshiba
- Plug and Go automatic setup: easy and safe
- Package contents: Power adapter, Power cable, 10 swappable notebook connectors
- Users guide
- System requirements
- Wall power connection
- Notebook with compatible power rating and connection

PLEASE NOTE:

How much power does your notebook need?
The notebook power adapter must be able to supply sufficient power to the notebook. Power is specified in number of Watts (W), e.g. 65W or 90W.
Important:
always use a notebook power adapter that has equal or higher power output than the notebook requires. E.g., on a 90W notebook you can use a 90W or 120W adapter but not a 70W adapter.
Follow these steps:
The power requirements are usually specified in Watts (W) on the original power adapter that was included with your notebook. Common power outputs are 65W and 90W.
When the output power is only specified in Volts (V) and Amperes (A), multiply those numbers to get the power output in Watts (W). For example, if the output power is: 18,5V x 3,5A = 64,75W (rounded off to 65W).
If the original adapter is missing then check for a label on the notebook, check the user manual or contact the manufacturer of the notebook.

Technical specification		
Item number:	17469	
EAN-code:	8713439174694	
Warranty term:	2 years	
Product size:	31(H) x 119(W) x 55(D) mm	
Product weight:	522g	
Type	Order code	1+
90W Notebook Adapter	90-2715	26.65

518222



Plug and Go 65W Notebook Power Adapter UK 16900

Not only does the Trust Plug and Go 65W Notebook Power Adapter with USB Power Port work with most notebooks, it even powers mobile devices such as mobile phones, smartphones, PDA, iPhone iPod, MP3 and more at the same time.

This notebook power adapter from the well known Company of Trust is ideal for use at home and the office as a secondary adapter or for use as a replacement adapter, at the same time charging your other devices with the USB charger socket.

- For notebook, iPhone or smartphone
- Wall power
- 65W
- 10 swappable notebook connectors
- Compatible with brands: Acer; Fujitsu; Packard Bell; Asus; HP; Samsung; Compaq; IBM; Sony; Dell; Lenovo and Toshiba
- Plug and Go automatic setup: easy and safe
- USB connection
- Package contents: Power adapter, power cable, 10 swappable notebook connectors, users guide

PLEASE NOTE:

How much power does your notebook need?
The notebook power adapter must be able to supply sufficient power to the notebook. Power is specified in number of Watts (W), e.g. 65W or 90W.
Important:
Always use a notebook power adapter that has equal or higher power output than the notebook requires. E.g., on a 90W notebook you can use a 90W or 120W adapter but not a 70W adapter.
Follow these steps:
The power requirements are usually specified in Watts (W) on the original power adapter that was included with your notebook. Common power outputs are 65W and 90W.



When the output power is only specified in Volts (V) and Amperes (A), multiply those numbers to get the power output in Watts (W). For example, if the output power is: 18.5V x 3.5A = 64.75W (rounded off to 65W).

If the original adapter is missing then check for a label on the notebook, check the user manual or contact the manufacturer of the notebook.

Technical specification
Item number: 16892
EAN-code: 8713439168921
Warranty term: 2 years
Product size: 52(H) x 116(W) x 34(D) mm
Product weight: 423g

Type	Order code	1+
65W Notebook Adapter	90-2716	23.37

518223



Primo 70W Notebook Power Adapter – Black UK 17260

This sleek black AC power adapter from one of the UK's leading supplier offers a 70W output. The Trust Primo 70W Notebook Power Adapter is supplied complete with 8 swappable tips and is compatible with Acer, Fujitsu, Packard Bell, Asus, HP, Samsung, Compaq, IBM, Sony, Dell, Lenovo and Toshiba.



This universal notebook power adapter is perfect for use as a replacement or secondary power adapter at home or office. So make sure your laptop is always charged up and ready to go with the lightweight Primo 70W Notebook Power Adapter.

- Wall power
- 70W
- 8 swappable notebook connectors
- 6 step volt switch
- For notebook

PLEASE NOTE:

How much power does your notebook need?

The notebook power adapter must be able to supply sufficient power to the notebook. Power is specified in number of Watts (W), e.g. 65W or 90W.

Important:

Always use a notebook power adapter that has equal or higher power output than the notebook requires. E.g., on a 90W notebook you can use a 90W or 120W adapter but not a 70W adapter.

Follow these steps:

The power requirements are usually specified in Watts (W) on the original power adapter that was included with your notebook. Common power outputs are 65W and 90W.

When the output power is only specified in Volts (V) and Amperes (A), multiply those numbers to get the power output in Watts (W). For example, if the output power is: 18.5V x 3.5A = 64.75W (rounded off to 65W).

If the original adapter is missing then check for a label on the notebook, check the user manual or contact the manufacturer of the notebook.

Type	Order code	1+
70W Notebook Adapter	90-2717	16.66

518224



120W Notebook Power Adapter for car use 15822

The Trust 120W Notebook Power Adapter is just the thing for use in the car. This, along with the 120W high current output and extensive range of power tips, means this adaptor will work with most laptops on the market.



The lead from the cigarette lighter socket to the adaptor is long enough to reach your notebook from either a dash mounted cigarette lighter socket or one mounted on a centre console.

The power tips are designed in such a way that they can only be inserted one way round, providing a centre positive polarity. Please check this matches the polarity required by your laptop before use, and if any doubt, seek professional guidance.

- Use in car
- 120W
- 8 swappable notebook connectors
- 11 step volt switch
- For notebook
- Package contents: Power adapter with car cigarette lighter power plug attached, 8 swappable notebook tips, power select key, users guide, system requirements, car cigarette lighter socket, notebook with compatible power rating and connection

PLEASE NOTE:

How much power does your notebook need?

The notebook power adapter must be able to supply sufficient power to the notebook. Power is specified in number of Watts (W), e.g. 65W or 90W.

Important:

Always use a notebook power adapter that has equal or higher power output than the notebook requires. E.g., on a 90W notebook you can use a 90W or 120W adapter but not a 70W adapter.

Follow these steps:

The power requirements are usually specified in Watts (W) on the original power adapter that was included with your notebook. Common power outputs are 65W and 90W.

When the output power is only specified in Volts (V) and Amperes (A), multiply those numbers to get the power output in Watts (W). For example, if the output power is: 18.5V x 3.5A = 64.75W (rounded off to 65W).

If the original adapter is missing then check for a label on the notebook, check the user manual or contact the manufacturer of the notebook.

Technical specification
Former name: 120W Compact notebook power adapter PW-3120
Item number: 15822
EAN-code: 8713439158229
Warranty term: 2 years
Product size: 30(H) x 90(W) x 57(D) mm
Product weight: 436g

Type	Order code	1+
Notebook Adapter/car	90-2719	19.99

518226



Plug and Go Slimline 90W Notebook Power Adapter - Car and Truck 17462

The Trust Plug and Go Slimline 90W Notebook Power Adapter is just the thing for use in either the car or truck. This 90W high current adapter is supplied with an extensive range of power tips should mean this adaptor will work with most laptops on the market.



The lead from this ultra slim cigarette lighter socket to the adaptor is long enough to reach your notebook from either a dash mounted cigarette lighter socket or one mounted on a centre console. The input voltage from the adaptor works with both 12V and 24V.

The Plug and Go Slimline 90W Notebook Power Adapter is a product from the well known Company of Trust. The adapter is supplied with a fitted USB power port that will power mobile devices such as mobile phones, smartphones, PDA, iPhone iPod, MP3 and more at the same time. All that is needed is the connection cable that was supplied with your device that requires charging.

The power tips are designed in such a way that they can only be inserted one way round, providing a centre positive polarity. Please check this matches the polarity required by your laptop before use, and if any doubt, seek professional guidance.

- Use in car or truck
- 90W
- Ultra slim design
- Plug and Go automatic setup: easy and safe
- 10 swappable notebook connectors
- USB connection
- For notebook, iPhone or smartphone
- Package contents: Power adapter with car cigarette lighter power plug, 10 swappable notebook tips, Users guide, System requirements, Car/truck (12V/24V) cigarette lighter socket, Notebook with compatible power rating and connection, For USB charge function: USB charge cable supplied with your portable device

PLEASE NOTE:

How much power does your notebook need?

The notebook power adapter must be able to supply sufficient power to the notebook. Power is specified in number of Watts (W), e.g. 65W or 90W.

Important:

Always use a notebook power adapter that has equal or higher power output than the notebook requires. E.g., on a 90W notebook you can use a 90W or 120W adapter but not a 70W adapter.

Follow these steps:

The power requirements are usually specified in Watts (W) on the original power adapter that was included with your notebook. Common power outputs are 65W and 90W.

When the output power is only specified in Volts (V) and Amperes (A), multiply those numbers to get the power output in Watts (W). For example, if the output power is: 18.5V x 3.5A = 64.75W (rounded off to 65W).

If the original adapter is missing then check for a label on the notebook, check the user manual or contact the manufacturer of the notebook.

Technical specification
Item number: 17462
EAN-code: 8713439174625
Warranty term: 2 years
Product size: 110(H) x 55(W) x 20(D) mm
Product weight: 419g

Type	Order code	1+
Slim Adapt/Car/Truck	90-2720	24.60

518227

Page 407

Switch Mode Power Supplies

From
£6.13
85-2940





Ultralim Notebook Power Adapter 70W – Car 18065

The Trust Ultra slim Notebook Power Adapter is ideal for the business woman or man on the go. This 70W adapter is supplied with an extensive range of power tips that will work with most laptops on the market.



The lead from this ultra slim cigarette lighter socket to the adaptor is long enough to reach your notebook from either a dash mounted cigarette lighter socket or one mounted on a centre console. The input voltage from the adapter works with 12V.

The Trust Ultra slim Notebook Power Adapter is a product from the well known Company of Trust. The adapter is supplied with a fitted USB power port that will power mobile devices such as mobile phones, smartphones, PDA, iPhone iPod, MP3 and more at the same time. All that is needed is the USB charge cable supplied with your portable device.

The power tips are designed in such a way that they can only be inserted one way round, providing a centre positive polarity. Please check this matches the polarity required by your laptop before use, and if any doubt, seek professional guidance.

- Package contents: Power adapter with cables attached, 8 swappable notebook connectors, USB adapter cable, users guide
- System requirements: Car 12V or cigarette lighter socket, For USB charge function: USB charge cable supplied with your portable device, Notebook with compatible power rating and connection

PLEASE NOTE:

How much power does your notebook need?

The notebook power adapter must be able to supply sufficient power to the notebook. Power is specified in number of Watts (W), e.g. 65W or 90W.

Important:

Always use a notebook power adapter that has equal or higher power output than the notebook requires. E.g., on a 90W notebook you can use a 90W or 120W adapter but not a 70W adapter.

Follow these steps:

The power requirements are usually specified in Watts (W) on the original power adapter that was included with your notebook. Common power outputs are 65W and 90W.

When the output power is only specified in Volts (V) and Amperes (A), multiply those numbers to get the power output in Watts (W). For example, if the output power is: 18.5V x 3.5A = 64.75W (rounded off to 65W).

If the original adapter is missing then check for a label on the notebook, check the user manual or contact the manufacturer of the notebook.

Technical specification		
Item number:	18065	
EAN-code:	8713439180657	
Warranty term:	2 years	
Product size:	17(H) x 56(W) x 90(D) mm	
Product weight:	248g	

Type	Order code	1+
Notebook Car Adapt	90-2721	19.48

51828

a conventional PSU of similar power. No cooling fan is used resulting in a power supply which is silent in operation.

The CPX200 is designed and manufactured to meet the latest safety and EMC standards. Comprehensive protection includes an adjustable overvoltage trip for each output. This can be accurately set anywhere in the range 3.5V to 38.5V.

- Dual isolated outputs, 0-35V, 0 to 10A, 175W max. per output
- PowerFlex design gives variable voltage/current combinations
- 5A capability at 35V rising to 10A for 12V and below
- Separate digital voltage and current meters for each output
- High setting resolution, remote sense, variable OVP trips
- Compact half-rack 3U case size for bench or rack use
- Manufacturers part no. **Thurby Thandar CPX200**

Technical specification		
Voltage range:	0V to 35V	
Current range:	0A to 10A	
Power range:	Up to 175W	
Operating mode:	Constant voltage or constant current with automatic cross-over	
OVP Setting:	Via screwdriver adjustable preset on front panel.	
OVP Range:	10% to 110% of maximum output voltage.	
Voltage setting:	By coarse and fine controls.	
Current setting:	By single logarithmic control	
Load regulation:	<0.01% for a 90% load change.	
Line regulation:	<0.01% for a 10% line voltage change.	
Output impedance:	Typically <5mV in constant voltage mode. Typically >5kW in constant current mode	
Ripple and noise (20MHz bandwidth):	Typically <2mV rms, <20mV pk-pk, both outputs fully loaded (7A @ 25V)	
Transient response:	<2ms to within 100mV for 90% load change	
Temp. coefficient:	Typically <100ppm/°C	
Output protection:	Forward protection by OVP trip; maximum voltage 50V	
Protection functions:	Overvoltage trip	
Status indication:	Output on, CV, CI, Power Limit, Trip	
Output switch:	Electronic. Preset levels displayed when output is off	
Output terminals:	4mm terminals on 19mm pitch. 15A max	
Sensing:	Switchable local/remote	
General		
AC Input:	Internally set for 230V AC or 115V AC ±14%, 50/60Hz	
Installation:	Category II	
Power consumption:	600VA max	
Cooling:	Silent convection cooling	
Operating range:	+5°C to +40°C, 20% to 80%	
RH. Storage range:	-40°C to +70°C	
Environmental:	Indoor use at <2000m, Pollution Degree 1	

Type	Order code	1+
CPX200 Power Supply	85-2026	641.00

517687



UTD3700E series: DC Power supply



The UNI-T UTD3700E series is a high quality, regulated DC power supply with variable output voltage and current limiting. Suitable for a wide range of applications, from domestic to laboratory and industrial, the UNI-T UTD3700E is one of the most efficient and affordable DC power supplies available.

- Power: 220V ±10%, 50Hz ± 4%
- Product Colour: Red and grey
- Product weight: Around 4kg
- Product size: 210mm x 152mm x 305mm
- Standard Accessories: Test lead, English manual and power cord

Technical specification		
Model	UTP3701	
Order code	85-4044	
Output voltage	Ch 1, Ch2 0-24V	
	Ch3 5V	
Output current	Ch 1, Ch2 0-1A	
	Ch3 2A	
Overload effect	CV <1 x 10-4 + 2mV, CC≤2mA	
Ripple and noise	CV <1mVrms, CC≤1mA rms	
Regulation	CV - 20mV (Typical Value), CC - 50mV (Typical Value)	
Tracking error	5 x 10 - 3 + 2mV	
Reliability	MTBF (e): >20000 hours	
Other features	Triple Output, Series or Parallel Operation, Current, Auto Switching Between Voltage and Current	
	OperationLimitation	
Model	UTP3702	
Order code	85-4045	
Output voltage	Ch 1, Ch2 0-32V	
	Ch3	
Output current	Ch 1, Ch2 0-3A	
	Ch3	
Overload effect	CV <1 x 10-4 + 2mV, CC≤2mA	
Ripple and noise	CV <1mVrms, CC≤1mA rms	
Regulation	CV - 20mV (Typical Value), CC - 50mV (Typical Value)	
Tracking error	5 x 10 - 3 + 2mV	
Reliability	MTBF (e): >20000 hours	
Other features	Triple Output, Series or Parallel Operation, Current Limitation, Auto Switching Between Voltage and Current	
	Operation	
Model	UTP3703	
Order code	85-4046	
Output voltage	Ch 1, Ch2 0-32V	
	Ch3 5V	
Output current	Ch 1, Ch2 0-1A	
	Ch3 2A	
Overload effect	CV <1 x 10-4 + 2mV, CC≤2mA	



CPX200 Power Supply

The Thurby Thandar CPX200 Power Supply is designed to meet the need for flexibility in the choice of voltage and current capabilities. Today's engineers often need the voltage range capability of a 0 to 35V PSU and the current capability of 10A PSU. Normally, however, the maximum voltage and maximum current are not required simultaneously. A conventional bench PSU has a fixed current limit giving a power capability that reduces directly with the output voltage.



The TTI PowerFlex design of the CPX200 enables higher currents to be generated at lower voltages within an overall power limit envelope. Each output can provide 35V at a maximum current of 5A. As the voltage setting is reduced the output current capability increases up to a maximum of 10A. This is achieved by using the latest switch-mode technology. Advanced techniques are used to achieve noise and RFI figures comparable with good linear PSUs. As a result the Thurby Thandar CPX200 Power Supply can be used with confidence in sensitive environments.

The CPX200 is housed in a compact and robust steel case which is half-rack width and uses little bench space. It is lightweight to transport and generates much less heat than

Ripple and noise CV <1mVrms, CC≤1mA rms
 Regulation CV - 20mV (Typical Value), CC - 50mV (Typical Value)
 Tracking error 5 x 10 - 3 + 2mV
 Reliability MTBF (e): >2000 hours
 Other features Triple Output, Series or Parallel Operation, Current Limitation, Auto Switching Between Voltage and Current Operation

Model UTP3704
 Order code **85-4047**
 Output voltage Ch1, Ch2 0-32V
 Ch3 5V
 Output current Ch1, Ch2 0-3A
 Ch3 2A
 Overload effect CV <1 x 10-4 + 2mV, CC≤2mA
 Ripple and noise CV <1mVrms, CC≤1mA rms
 Regulation CV - 20mV (Typical Value), CC - 50mV (Typical Value)
 Tracking error 5 x 10 - 3 + 2mV
 Reliability MTBF (e): >2000 hours
 Other features Triple Output, Series or Parallel Operation, Current Limitation, Auto Switching Between Voltage and Current Operation

Model UTP3705
 Order code **85-4048**
 Output voltage Ch1, Ch2 0-32V
 Ch3 0-5A
 Output current Ch1, Ch2 0-5A
 Ch3
 Overload effect CV <1 x 10-4 + 2mV, CC≤2mA
 Ripple and noise CV <1mVrms, CC≤1mA rms
 Regulation CV - 20mV (Typical Value), CC - 50mV (Typical Value)
 Tracking error 5 x 10 - 3 + 2mV
 Reliability MTBF (e): >2000 hours
 Other features Triple Output, Series or Parallel Operation, Current, Auto Switching Between Voltage and Current Operation/Limitation

Type	Order code	1+	5+	10+
Uni-T 0-24V DC Power Supply	85-4044	79.45	72.35	68.81
Uni-T 0-32V DC Power Supply	85-4045	115.43	105.11	99.97
Uni-T 0-32V DC Power Supply	85-4046	118.42	107.85	102.56
Uni-T 0-32V DC Power Supply	85-4047	124.41	113.31	107.75
Uni-T 0-32V DC Power Supply	85-4048	157.40	143.34	136.31

400405

Rapid

5V 1A Regulated power supply

A sturdy regulated power supply delivering 5V at a maximum of 1A. Ideally suited to teaching bulb and switch work in both primary and secondary schools, and electronics teaching.

- Suitable for powering most electronics teaching kits
- Output is delivered via colour coded 4mm terminals
- Monitored by an LED which indicates normal/short circuit conditions by its colour
- Short circuit protected
- An internal control allows the output to be preset within the range 5-8.5V
- The supply is enclosed in a sturdy fully earthed steel case and is supplied complete with mains lead and instructions
- Dimensions 120 x 110 x 150mm



Technical specification
 Output voltage +5V
 Output current 1A max
 Overload and short circuit protected
 Load regulation 0.1%
 Line regulation 0.05%
 Ripple 5mV rms max
 Mains input 210 to 250V 50/60Hz
 Weight 1kg

Type	Order code	1+
5V 1A Supply	85-1725	50.83

65043

Rapid

Dual rail 100mA regulated power supply

A rugged power supply offering dual rail voltage output with twice the current output usually available in units of this type.

- Output is 15-0-15V at 100mA per rail.
- The unit is designed for powering operational amplifiers
- Features short circuit protection and output status monitoring via tricolour LEDs
- Output is via colour coded 4mm terminals
- The supply is enclosed in a sturdy fully earthed steel case
- Supplied complete with mains lead and comprehensive instruction manual
- Ideal for laboratory and educational use
- Dimensions 120 x 110 x 150mm



Technical specification
 Output voltage +15, 0, -15V
 Output current 100mA max per rail
 Overload and short circuit protected
 Load regulation 0.1%
 Line regulation 0.1%
 Ripple 5mV rms max
 Mains input 210 to 250V 50/60Hz
 Weight 850g

Type	Order code	1+	5+
15V 100mA Supply	85-1720	54.57	51.23

65044

Rapid

Dual rail 1A regulated power supply

A versatile supply offering a wide range of stabilised DC voltages in both single and dual rail mode. The use of separate 4mm terminals for each of the positive and negative outputs gives the user eleven single rail voltages ranging from 3V to 30V and thirty three dual rail voltages (symmetrical and asymmetrical) in the range 5-0-5V to 15-0-15V.

- A maximum of 1A per rail is available
- All outputs are short circuit protected
- The supply is enclosed in a sturdy steel case which is fitted with a carry handle
- Supplied with mains lead and a comprehensive user manual
- This unit will find a ready home in R + D test laboratories and education
- Dimensions 140 x 125 x 240mm



Technical specification
 Output voltage +15, +12, +5, 0, -5, -12, -15V
 Output current 1A max per rail
 Overload and short circuit protected
 Load regulation 0.1%
 Line regulation 0.05%
 Ripple 5mV rms max
 Mains input 210-250V 50/60Hz
 Weight 1.65kg

Type	Order code	1+
Dual rail 1A supply	85-1715	84.05

65045

ELECTROSOUND

Continuously variable 8A power supply

A quality and rugged power supply designed to meet the demands of Physics, Chemistry and Technology departments.

- Offers a continuous 8A variable output
- Adjustable voltage limit lock
- Heavy duty rotary transformer
- Fast acting, front panel mounted push button cut-out
- Accessible 5A fuse on rear of unit
- DC LCD meter
- Colour-coded 4mm terminal posts which accept 4 and 2mm plugs, crocodile clips, spade terminals or bared wire
- Housed in a custom designed, powder coated steel case with carrying handle
- Heavy duty rubber feet
- Easy to store and stackable
- Fixed mains lead is terminated with a moulded UK 13A fused plug
- CE approved



Technical specification
 Power rating 230V AC 50Hz
 Power 200VA max.
 Fuse rating 5A
 Variable output 0 to 16V AC @ 10A
 0 to 12V full wave rectified DC @ 8A
 Terminal posts 4mm colour coded

Type	Order code	1+	3+	5+
8A Power supply	85-2247	199.34	189.33	183.75

71542

RVFM

8A AC/DC Power supply

A robust power supply that will deliver outputs of 2, 4, 6, 8, 10 or 12V via two pairs of 4mm terminal posts. The output voltage is selected by a front panel mounted rotary switch. A locking key operated switch mounted on the front panel selects either AC or DC.

- Maximum available output voltage indicated by a row of red LEDs, may be set by inserting a screwdriver into a recessed control on the underside of the unit
- Short circuit and overload protection is provided by using an internal automatically resetting cut-out
- Housed in a powder coated steel enclosure complete with carry handle
- Supplied complete with moulded mains lead and fused 13A plug



Technical specification
 Output voltage: DC 2, 4, 6, 8, 10 or 12V DC unsmoothed
 AC 2, 4, 6, 8, 10 or 12V
 Output current 8A continuous loading
 Overload and short circuit protected
 Front panel earth terminal
 Mains input 210-250V AC 50/60Hz
 Dimensions 240 x 140 x 125mm
 Weight 4.45kg

Type	Order code	1+	3+	5+
8A AC/DC PSU	85-1750	150.35	123.62	116.93

65046

Rapid

6A AC/DC Power supply

This addition to our range offers AC voltages of 2, 4, 6, 8, 10 or 12V and capacitor smoothed (10,000µF), DC voltages of 1, 4, 7, 10, 13 or 15V.

- Separate AC and DC colour coded terminals are provided
- AC and DC voltages may be used simultaneously up to a maximum combined load of 6 amps
- An earth terminal is also provided should rail clamping be required
- Voltages are selected by a six position keyswitch – the key is removable in any position
- Keys are of a common profile so that one key will switch any unit
- The output voltage is monitored by a sophisticated system which detects overloads, short circuits and cuts power to the terminals under these conditions
- Tripping is indicated by a buzzer sounding and the output monitor LED turning from green to red, thereby allowing the teacher to locate the tripped unit from across the room
- Reset is achieved by switching off the mains switch for 5 seconds
- Unit comes housed in a rugged steel case with carrying handle and is stackable
- Mains input is via a rear panel mounted, fused IEC connector and a detachable IEC lead with moulded mains plug



Technical specification

Output voltage DC: 1, 4, 7, 10, 13 or 15V
AC: 2, 4, 6, 8, 10 or 12V
Output current 6A maximum
Overload and short circuit protected
Smoothing 10,000µF
Mains input 210 to 250V 50/60Hz
Weight 1.5kg

Type	Rating	Order code	1+	5+	10+
6A AC/DC Supply		85-1740	133.64	124.73	116.93

65048

Rapid

4A 13.8V Fixed output DC regulated power supply (linear mode)

A low power, DC regulated power supply that is designed for use with 13.8V DC equipment, such as communications, automotive and marine equipment. Its advanced design mean that this unit is cost effective yet gives good performance with high stability and reliability.

- Fixed 13.8V DC output
- Screw connectors and 12V cigarette lighter accessory socket
- High stability
- Low ripple and noise
- Compact size
- Overload and short circuit protection
- Galvanised steel case
- Polycarbonate front panel
- Cooled by natural convection
- Approved to CE, EN60065, EN55014



Technical specification

Order code 85-1714
Input voltage 230V AC 50Hz
Fixed output voltage 13.8V DC
Rated output current 4A
Peak output current 6A
Ripple and noise 6mV
Load regulation 130mV
Line regulation 320mV
Dimensions 160 x 92 x 165mm
Weight 3kg

Type	Rated current	Order code	1+
Fixed o/p PSU	4A	85-1714	34.85

77155

Rapid

10A 0-30V Triple output digital DC regulated PSU

This supply has been designed for use in general electronic servicing in the laboratory, workshop and classroom. It can be used in either constant voltage with current limiting or constant current with voltage limiting modes. Features three independent outputs, two fixed voltage and one variable voltage.

- One 0-30V variable output
- One 5V 500mA output and one 12V 500mA output
- Separate digital voltmeter and ammeter



- Current limiting LED indicator
- Adjustable current control
- Overload and short circuit protection
- Robust, galvanised steel case
- Polycarbonate front panel
- Screw on connector for variable output, snap on connectors for fixed outputs
- Approved to CE, EN61558, EN55014

Technical specification

Order code 85-1706
Input voltage 230V AC 50Hz
Output voltage variable 0-30V DC
Rated output current 10A
Output voltage 1 5V DC 500mA (max. 1A)
Output voltage 2 12V DC 500mA (max. 1A)
Ripple and noise 5mV
Load regulation 30mV
Line regulation 10mV
Cooling systems Thermostatically controlled fan
Dimensions 205 x 125 x 280mm
Weight 6.5kg

Type	Rating	Order code	1+
Triple o/p PSU	10A	85-1706	105.96

77152

Rapid

0-30V Triple output DC regulated PSU

This versatile power supply has been designed for use in general electronic servicing in the laboratory, workshop and classroom. All units can be used in either constant voltage with current limiting or constant current with voltage limiting modes. Features three independent outputs, two fixed voltage and one variable voltage.

- One 0 to 30V variable output
- One 5V 500mA output and one 12V 500mA output
- Separate analogue voltmeter and ammeter
- Current limiting LED indicator
- Adjustable current control
- Overload and short circuit protection
- Compact and lightweight
- Robust, galvanised steel case
- Polycarbonate front panel
- Screw on connector for variable output, snap on connectors for fixed outputs
- Approved to CE, EN60065, EN55014



Technical specification

Input voltage 230V AC 50Hz
Output voltage variable 0 to 30V DC
Rated output current 2.5A
Output voltage 1 5V DC 500mA (max. 1A)
Output voltage 2 12V DC 500mA (max. 1A)
Ripple and noise 5mV
Load regulation 0.5% +10mV
Line regulation 0.5% +10mV
Cooling systems Natural convection
Dimensions 150 x 145 x 200mm
Weight 2.8kg

Type	Rating	Order code	1+
Triple o/p PSU	2.5A	85-1707	62.91

77154

Rapid

30V 2.5A Regulated power supply

The Rapid PS3025 is a new high quality, fully regulated, power supply capable of supplying up to 30V at a maximum of 2.5 amps with additional fixed 5V and 12V outputs at 500mA.

- Ideally suited to laboratory test and educational environments
- Voltage and current outputs are individually displayed on liquid crystal displays
- Output voltage is continuously adjustable via a single control from 0 to 30V DC
- Output current limiting is fully adjustable up to 2.5A, again by a single control
- The 30V output is terminated with 4mm colour coded terminals
- The 5V and 12V outputs are terminated via a spring loaded colour coded terminal block
- All outputs are overload and short circuit protected
- The power supply is housed in a sturdy steel enclosure and is supplied with mains lead terminated with a UK mains plug fused at 5A and user instructions



Technical specification

Output 1: Voltage 0 to 30V DC continuously variable
Current 0 to 2.5A continuously variable
Output 2: Voltage +5V (fixed)
Current 500mA
Output 3: Voltage +12V (fixed)
Current 500mA
Regulation: Line 0.05% ±5mV
Load 0.05% ±5mV
Ripple and noise 0.25mV typical
Power requirement 240V AC 50/60Hz
Weight 4.5kg
Dimensions 200 x 150 x 145mm

Type	Order code	1+
30V 2.5A Reg. PSU	85-1705	73.42

65049

Scheduled orders

Rapid will store your order **FREE OF CHARGE** and then deliver the required amount along with an individual invoice on your specified dates.

Fax your scheduled order and required dates to:



01206 751188

HAMEG
Instruments

A Rohde & Schwarz Company

HMP4040 Programmable 4-Channel High-Performance Power Supply

The HAMEG HMP4040 programmable 4-channel high-performance intelligent power supply is ideal for applications in the lab, training, service and production. Various automatic settings are available. The device combines high performance switching power supply technology with linear readjustment. HAMEG Instruments are well known for



- 384W Output power realized by intelligent power management
- High setting - and read-back resolution of 1mV up to 0.2mA
- Keypad for direct parameter entry
- Galvanically isolated, earth-free and short circuit protected output channels
- Advanced parallel- and serial operation via V/I tracking
- EasyArb function for free definable V/I characteristics
- FuseLink: individual channel combination of electronic fuses
- Free adjustable Overvoltage Protection (OVP) for all outputs
- All Parameters clearly displayed via LCD/illuminated buttons
- Rear connectors for all channels including sense
- USB/RS-232 Interface, optional Ethernet/USB or IEEE-488 (GPIB)

Technical specification
Voltage: 0.01% + 2mV
Current: 0.02% + 3mA
Display: 240 x 128 pixel LCD (full graphical)
Memory: Non volatile memory for 3 arbitrary functions and 10 device settings
Interface: Dual-Interface USB/RS-232 (HO720)
Processing time: <50ms
Protection class: Safety class I (EN61010-1)
Power supply: 115V to 230V $\pm 10\%$; 50 to 60Hz, CAT II
Mains fuses: 5x 20mm slow blow
115V: 2x 10A
230V: 2x 5A
550VA max.
Operating temperature: +5°C to +40°C
Storage temperature: -20°C to +70°C
Rel. humidity: 5% to 80% (non condensing)
Dimensions: 285(W) x 125(H) x 365(D)mm
Weight: approx. 10kg
For full technical specification and recommended accessories, see datasheet

Type	Order code	1+
High-Performance PSU	85-4424	1480.00

501753

HAMEG
Instruments

A Rohde & Schwarz Company

HAMEG HMP4030 Programmable 3-Channel High-Performance Power Supply



The HAMEG HMP4030 programmable 3-channel high-performance intelligent power supply is ideal for applications in the lab, training, service and production. Various automatic settings are available. The device combines high performance switching power supply technology with linear readjustment. HAMEG Instruments are well known for

- 384W Output power realized by intelligent power management
- High setting - and read-back resolution of 1mV up to 0.2mA
- Keypad for direct parameter entry

- Galvanically isolated, earth-free and short circuit protected output channels
- Advanced parallel- and serial operation via V/I tracking
- EasyArb function for free definable V/I characteristics
- FuseLink: individual channel combination of electronic fuses
- Free adjustable Overvoltage Protection (OVP) for all outputs
- All Parameters clearly displayed via LCD/illuminated buttons
- Rear connectors for all channels including sense
- USB/RS-232 Interface, optional Ethernet/USB or IEEE-488 (GPIB)

Technical specification
Voltage: 0.01% + 2mV
Current: 0.02% + 3mA
Display: 240 x 128 pixel LCD (full graphical)
Memory: Non volatile memory for 3 arbitrary functions and 10 device settings
Interface: Dual-Interface USB/RS-232 (HO720)
Processing time: <50ms
Protection class: Safety class I (EN61010-1)
Power supply: 115V to 230V $\pm 10\%$; 50 to 60Hz, CAT II
Mains fuses: 5x 20mm slow blow
115V: 2x 10A
230V: 2x 5A
550VA max.
Operating temperature: +5°C to +40°C
Storage temperature: -20°C to +70°C
Rel. humidity: 5% to 80% (non condensing)
Dimensions: 285(W) x 125(H) x 365(D)mm
Weight: approx. 10kg
For full technical specification and recommended accessories, see datasheet

Type	Order code	1+
High-Performance PSU	85-4425	1270.00

501754

HAMEG
Instruments

A Rohde & Schwarz Company

HMP2020 Programmable 3-Channel High-Performance Power Supply



The HMP2030 programmable 3-channel high-performance power supply from HAMEG is based on the classical transformer principle, utilising a high efficiency electronic pre-regulator and a secondary linear voltage regulator. This design concept stands for high output power, a compact sized housing and high efficiency, combined with smallest residual ripple.

There are up to 3-channels, each electrically insulated and combinable. The HMP2030 has two identical channels (CH1 19 and CH3 21) with a voltage range of 0 to 32 V. Due to the intelligent power management, 5A can be drawn at 16V and 2.5A are delivered at the full rated output voltage of 32V. The second channel delivers 0 to 5.5V at 5A. The HMP2030 can provide an output power of 188W. But besides the 5.5V channel there is also one more 32V channel doubling its maximum current to 10A.

The high resolution for set and read back values down to 1mV/0.1mA makes the HMP2030 an ideal solution for demanding applications. HAMEG Instruments are well known for

- 188W Output power realised by intelligent power management
- High setting - and read-back resolution of 1mV up to 0.1mA
- Galvanically isolated, earth-free and short circuit protected output channels
- Advanced parallel - and serial operation via V/I tracking
- EasyArb Function for free definable V/I
- FuseLink: Individual channel combination of electronic fuses
- Free adjustable Overvoltage Protection (OVP) for all outputs
- All Parameters clearly displayed via LCD/illuminated buttons
- Rear connectors for all channels including sense
- USB/RS-232 Interface, optional Ethernet/USB or IEEE-488 (GPIB)

Technical specification
Display: 240 x 64 Pixel LCD (full graphical)
Memory: Non volatile memory for 3 Arbitrary functions and 10 device settings
Interface: Dual-Interface USB/RS-232 (HO720)
Processing time: <50ms
Protection class: Safety class I (EN61010-1)
Power supply: 115V to 230V $\pm 10\%$; 50 to 60Hz, CAT II
Mains fuses: 5x 20mm slow blow
115V: 2x 6A
230V: 2x 3.15A
350VA max.
Operating temperature: +5°C to +40°C
Storage temperature: -20°C to +70°C
Rel. humidity: 5% to 80% (non condensing)
Dimensions: 285(W) x 75(H) x 365(D)mm
Weight: approx. 8.5kg
For full technical specification and recommended accessories, see datasheet

Type	Order code	1+
High-Performance PSU	85-4426	1052.00

501755



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HAMEG®
Instruments

A Rohde & Schwarz Company

HMP2020 Programmable 2-Channel High-Performance Power Supply

The HMP2020 programmable 2-channel high-performance power supply from HAMEG is based on the classical transformer principle, utilising a high efficiency electronic preregulator and a secondary linear voltage regulator. This design concept stands for high output power, a compact sized housing and high efficiency, combined with smallest residual ripple.



There are 2-channels, each electrically insulated and combinable. The high resolution for set and read back values down to 1mV/0.1mA makes HMP an ideal solution for demanding applications. HAMEG Instruments are well known for oscilloscopes and test equipment for more than 50 years.

- 188W Output power realised by intelligent power management
- High setting - and read-back resolution of 1mV up to 0.1mA
- Galvanically isolated, earth-free and short circuit protected output channels
- Advanced parallel - and serial operation via V/I tracking
- EasyArb Function for free definable V/I
- FuseLink: Individual channel combination of electronic fuses
- Free adjustable Overvoltage Protection (OVP) for all outputs
- All Parameters clearly displayed via LCD/illuminated buttons
- Rear connectors for all channels including sense
- USB/RS-232 Interface, optional Ethernet/USB or IEEE-488 (GPIB)

Technical specification	
Display:	240 x 64 Pixel LCD (full graphical)
Memory settings:	Non volatile memory for 3 Arbitrary functions and 10 device settings
Interface:	Dual-Interface USB/RS-232 (HOT20)
Processing time:	<50ms
Protection class:	Safety class I (EN61010-1)
Power supply:	115V to 230V ±10%; 50 to 60Hz, CAT II
Mains fuses:	5x 20mm slow blow
115V:	2x 6A
230V:	2x 3.15A
Power consumption:	350VA max.
Operating temperature:	+5°C to +40°C
Storage temperature:	-20°C to +70°C
Rel. humidity:	5% to 80% (non condensing)
Dimensions:	285(W) x 75(H) x 365(D)mm
Weight:	approx. 8.5kg
For full technical specification and recommended accessories, see datasheet	

Type	Order code	1+
High-Performance PSU	85-4427	819.00

501756

HAMEG®
Instruments

A Rohde & Schwarz Company

HM7042-5 - Triple Power Supply Unit

This supply offers a cost-effective alternative to many standard supplies on the market. In addition to low ripple and high efficiency the HM7042-5 sports all features to be expected of a lab supply. There are 3 independent output voltages. These may be series or parallel connected to obtain higher voltages or higher currents. The instrument has current limiting as well as over current disconnect.



The HAMEG HM7042-5 triple power supply has the advantages of a SMPS, especially high efficiency, and those of a linear regulator, e.g. high quality regulation, are combined. A high power DC/DC converter is used as a preregulator for the following linear regulators, this reduces the high losses typical of purely linear regulation. The HM 7042-5 has 3 independent and isolated voltage sources. In addition to the standard mode of operation as a triple output supply all outputs may be series or parallel connected.

Whether in labs or in production sites, the reliable HAMEG power supplies are ubiquitous. These power supplies are easy to operate by their simple and intuitive front panel layouts. The interfaces and can be incorporated in automated test systems. Together with other programmable HAMEG instruments professional test systems can be set up at moderate cost. HAMEG Instruments are well known for oscilloscopes and test equipment for more than 50 years.

- Outputs: 2x 0 to 32V/0V to 2A and 1x 0V to 5.5V/0A to 5A
- High-performance and inexpensive laboratory power supply floating, overload and short-circuit proof outputs
- Separate voltage and current displays for each output
- 4 Digits at channel 1+3; 3 digits at channel 2
- Display Resolution:
- 10mV/1mA at channel 1+3; 10 mV/10mA at channel 2
- Protection of sensitive loads by current limit or electronic fuse
- Pushbutton for activating/deactivating all outputs
- Low residual ripple, high output power, very good regulation
- Parallel (up to 9A) and series (up to 69.5V) operation
- Temperature-controlled fan

Technical specification	
Safety class:	Safety class I (EN61010-1)
Mains supply:	115V to 230V ±10%; 50 to 60Hz, CAT II
Mains Fuse:	115V: 2x 5A slow blow 5x 20mm 230V: 2x 2.5A slow blow 5x 20mm
Power consumption:	max. 330VA to 250W
Operating temperature:	+5°C to +40°C
Storage temperature:	-20°C to +70°C
Rel. humidity:	5% to 80% (non condensing)
Dimensions:	285(W) x 75(H) x 365(D)mm
Weight: approx:	approx. 7.4kg
For full technical specification and recommended accessories , see	

Type	Order code	1+
Triple PSU	85-4428	515.00

501757

HAMEG®
Instruments

A Rohde & Schwarz Company

HM8143 - Arbitrary Power Supply Unit

The HM8143 is a multifunctional workhorse, you get 3 instruments in one. A power supply with 3 independent floating outputs which may be series or parallel connected. All outputs may be turned on or off by pushing a button. The 30V/2A outputs may be externally modulated or may be operated in the tracking mode allowing you to change their voltages currents simultaneously.



Sense terminals measure the voltages directly at the respective loads thus keeping the load voltages constant. For digital circuits a 5V/2A output is provided. The HAMEG HM8143 is an arbitrary waveform generator with 1024 points allowing it to generate user-defined waveforms in the low frequency range. The arbitrary signals are generated digitally and can be defined fairly simply. In general, an arbitrary signal consists of a multitude of amplitude levels which are addressed one after the other thus creating a waveform which may be periodically repeated. The signal may be freely defined within the instrument specifications and will be stored by the instrument.

Such signals may be defined by using the RS-232, IEEE-488 or USB interfaces. The two 30V outputs may be modulated using the rear terminals. The high slew rate of 1V/μs for modulation and the minimum pulse width of 100μs in the arbitrary mode allow complex load profiles. For external modulation the low distortion of the linear output stage is available over the full power range. HAMEG Instruments are well known for oscilloscopes and test equipment for more than 50 years.

- Outputs: 2x 0V to 30V/0A to 2A and 1x 5V/0A to 2A
- Display resolution 10mV/1mA
- Arbitrary waveform power supply (1024 points, 12-bit)
- Tracking mode for 30V outputs
- External modulation of output voltages
- Electronic load up to 60W per channel (max. 2A)
- SENSE lines
- Multimeter mode for all adjustable outputs
- RS-232 Interface optional: USB, IEEE-488

Technical specification	
Voltage applicable to output terminals (ON/OFF)	CH I + CH III, 30V; CH II: 5 V
Voltage to earth:	max. 150 V
Display:	4 x 4-digit 7-segment LEDs
Interface: RS-232 (standard)	Protection class: I acc. to EN 61010 (IEC 61010)
Power supply:	115V to 230V ±10%; 50 to 60Hz
Mains fuse:	115V: 2x 6A slow blow 5x 20mm 230V: 2x 3.15A slow blow 5x 20mm
Power consumption:	approx. 300VA
Operating temperature:	0°C to +40°C
Storage temperature:	-20°C to +70°C
Max. relative humidity:	<80% (without condensation)
Dimensions:	285(W) x 75(H) x 365(D)mm
Weight: approx:	approx. 9kg
For full technical specification and recommended accessories, see datasheet	

Type	Order code	1+
Arbitrary PSU	85-4429	864.00

501758

Rapid

3A Switched output switch mode power supply

A compact, switch mode power supply that offers six selectable output voltages (3, 4.5, 6, 7.5, 9, 12V), and is rated at 3A output current.

- The power supply is housed in a tough polycarbonate housing
- Offers excellent performance and reliability at a low-cost
- Overload and short circuit protection
- Ideal for a wide range of applications, and is especially suited for the educational environment
- Output is via 4mm socket/screw terminals
- Supplied with two sets of leads - one set with crocodile clips and bare ends the other with 4mm plugs and 4-way power plug adaptor
- CE approved to EN60950, EN55011



Technical specification		
Output voltage	3, 4.5, 6, 7.5, 9, 12V	
Output current	3A	
Ripple & noise	10mV rms	
Line regulation	60mV	
Load regulation	300mV	
Dimensions	90 x 50 x 140mm	
CE approval	EN60950, EN55011	

Type	Order code	1+	5+	10+	50+
3A Switched o/p PSU	85-1820	29.34	27.11	25.44	23.77

65050



New products

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Rapid

30V Dual analogue meter PSU

A range of 30V power supplies that represent outstanding value for money. Compact and rugged, these PSU's feature highly stabilised constant current and constant voltage outputs.

- Available with 3A and 5A maximum outputs
- Separate analogue voltmeter and ammeter
- Fine and coarse adjustment of both voltage and current
- Overcurrent and short circuit protection



Technical specification

Input voltage 220 to 240V AC
Output voltage 0 - 30V
Output current 0 - 3A **85-1851**
0 - 5A **85-1852**
Source effect <0.02% +1mV
Load effect <0.01% +5mV
Ripple and noise <1mV rms

Dimensions (mm) 291 x 158 x 136
Weight (kg) 6

Type	Output current	Order code	1+	3+	10+
30V PSU	0-3A	85-1851	74.36	65.46	58.77
30V PSU	0-5A	85-1852	88.65	77.51	69.72

74609

Rapid

50V Dual LED meter PSU

A range of 50V power supplies with dual LED displays for separate voltmeter and ammeter. These value for money units are compact enough to fit on any workbench.

- Available with 2A and 3A maximum outputs
- Two 3 1/2 digit LED displays - ammeter and voltmeter
- Fine and coarse adjustment of both voltage and current
- Overcurrent and short circuit protection



Technical specification

Input voltage 220 to 240V AC
Output voltage 0 - 50V
Output current 0 - 2A **85-1858**
0 - 3A **85-1859**
Source effect <0.02% +1mV
Load effect <0.01% +5mV
Ripple and noise <1mV rms

Display accuracy Voltage ±1% +2 digits
Current ±1.5% +2 digits

Dimensions (mm) 291 x 158 x 136
Weight (kg) 6

Type	Output current	Order code	1+	3+	10+
50V PSU	0-2A	85-1858	101.34	86.87	53.45
50V PSU	0-3A	85-1859	119.87	108.98	99.08

74612

Rapid

18V Dual LCD meter PSU

A range of value for money 18V power supplies with dual LCD meters that are compact enough to fit on any workbench.

- Available with 2A and 3A maximum outputs
- Highly stabilised constant current and constant voltage outputs
- Two 3 1/2 digit LCD displays - ammeter and voltmeter
- Adjustment of both voltage and current
- Overcurrent and short circuit protection



Technical specification

Input voltage 220 to 240V AC
Output voltage 0 - 18V
Output current 0 - 2A **85-1853**
0 - 3A **85-1854** Linear
Source effect <0.02% +1mV
Load effect <0.01% +5mV
Ripple and noise <1mV rms

Display accuracy Voltage ±1% +2 digits
Current ±1.5% +2 digits

Dimensions (mm) 291 x 158 x 136
Weight (kg) 6

Type	Output current	Order code	1+	3+	10+
18V PSU	0-2A	85-1853	76.59	61.00	55.49
18V PSU linear	0-3A	85-1854	79.99	64.40	57.72

74610

Rapid

100W Switch mode bench PSU

100W laboratory grade switch mode power supplies with large backlit blue displays and white digits, providing clear and sharp readings even in poor lighting conditions. The slim footprint is ideal for use where bench space is at a premium.

- Automatic cross over constant voltage and constant current modes
- Illuminated LCD display of A, V, On/Off, CC and CV modes
- 4-digit display of voltage and current settings
- Compact slim tower housing
- Output On/Off switch on front panel
- Over voltage, short circuit, and over temperature protection
- Excellent line and load regulation, low ripple and noise
- Input voltage selection via jumper
- **CE, EN 61010 and EN 55011** approvals



Technical specification

Input voltage 90 to 130 / 180 to 260V AC, 50Hz
Full load input current 0.83A

Output voltage **85-1901** 1.0 to 20 V DC
85-1902 1.0 to 36 V DC
85-1903 1.0 to 60 V DC

Output current **85-1901** 0 to 5A
85-1902 0 to 3A
85-1903 0 to 1.6A

Load regulation **85-1901** 70mV
85-1902 50mV
85-1903 50mV

Line regulation 20mV
Ripple & noise (rms) 5mV
Ripple & noise (peak to peak) **85-1901** 30mV
85-1902 30mV
85-1903 50mV

Current regulation load 20mA
Current regulation line 20mA

Current regulation ripple and noise 20mA
Switching operation frequency 80 to 120kHz

Power factor 0.68
Efficiency at maximum power **85-1901** 84%
85-1902 85%
85-1903 85%

Voltmeter accuracy ±0.5%
Ammeter accuracy ±0.5%

Cooling system Natural convection
Dimensions W x H x D 70 x 150 x 250mm

Weight 2kg

Voltage	Current	Order code	1+	3+	10+
20V	5A	85-1901	110.22	97.56	88.21
36V	3A	85-1902	60.90		
60V	1.6A	85-1903	87.98	74.62	69.04

78617

Rapid

30V Dual LCD meter PSU

A range of 30V power supplies with dual LCD displays for separate voltmeter and ammeter. These value for money units are compact enough to fit on any workbench.

- Available with 3A and 5A maximum outputs
- Two 3 1/2 digit LCD displays - ammeter and voltmeter
- Fine and coarse adjustment of both voltage and current
- Overcurrent and short circuit protection



Technical specification

Input voltage 220 to 240V AC
Output voltage 0 - 30V

Output current 0 - 3A **85-1856**
0 - 5A **85-1857**

Source effect <0.02% +1mV
Load effect <0.01% +5mV
Ripple and noise <1mV rms

Display accuracy Voltage ±1% +2 digits
Current ±1.5% +2 digits

Dimensions (mm) 230 x 160 x 95
Weight (kg) 4

Type	Output current	Order code	1+	3+	10+
30V PSU	0-3A	85-1856	100.23	85.75	74.62
30V PSU	0-5A	85-1857	101.48		

74611



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PL303QMD Dual 0-30V/0-3A LXI/RS232 Analogue Power Supply

This Dual analogue Power Supply achieves an exceptional power density for a linear regulated power by offering up to 90W from a 1/4 rack 3U sized casing.

Up to four single output units can be fitted into one rack width. Alternatively, any combination of singles and duals can be used - as in the example shown.



The TTI RM450 rack mount (shown) is 4U high and incorporates limited ventilation space above and below the power supplies. Blanking plates are provided for unused positions.

This gives it an unusually small bench footprint taking up less space on a crowded bench. For rack-mount application, up to four units can be mounted into a single slot. Despite its small size and linear regulation, the TTI Dual analogue Power Supply produces relatively little heat through the use of an advanced phase controlled pre-regulator. This gives it significantly higher energy efficiency than conventional linear regulated designs, particularly when supplying lower voltages.

The internal heat-sinks use fan-assisted convection cooling in order to remove the heat with minimal fan noise.

The ultra-compact rack-modular sizing makes it ideally suited to rack mounted system applications, while its user-friendly manual controls are retained for bench top applications.

To meet the varying needs of todays engineers, a comprehensive array of interfaces is provided. RS-232, USB and LAN (Ethernet) with LXI support are provided as standard. An additional GPIB interface is also optionally available.

Each of the digital bus interfaces provides full control of voltage, current, and output On/Off, plus read-back of voltage, current and status. The interfaces are at ground potential and are opto-isolated from the output terminals.

- High performance linear regulated power supplies
- Full digital remote control and read back
- RS-232, USB and LAN (Ethernet)
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Analog remote control of V and I (non-isolated)
- Analog outputs for easy master-slave parallel wiring
- Ultra-compact size of quarter-rack 3U
- High power density - up to 90W per output
- Wide model range; single and dual outputs
- Manual control features as per New PL Series
- Manufacturers part no. **TTI PL303QMD**

Technical specification

Main Output(s)

Output range: 0 to 32V at 0 to 3.1A
Voltage setting: 12-bit resolution (10mV steps)
Current setting: 12-bit resolution (1mA steps)
Setting accuracy: Voltage: $\pm(0.1\% + 10mV)$ Current: $\pm(0.2\% + 2mA)$
Output mode: Constant voltage or constant current modes with automatic cross-over
Output switch: Electronic by interface command (front panel output switches must be set to ON)
Readback resolution: Voltage: 10mV over entire range Current: 1mA over the entire range
Readback accuracy: Voltage: $\pm(0.1\%$ of reading + 1 digit) Current: $\pm(0.3\%$ of reading + 1 digit)

Current meter

Damping: Nominally 20ms switchable to 2 sec and back by remote commands
Output terminals: 4mm terminals on 19mm spacing
Output impedance: Constant Voltage: Typically $<5m\Omega$ at 1kHz; Constant Current: Typically 50k Ω
Output protection: Max. output voltage +20V forward; diode clamped for reverse, up to 3A reverse current
Load regulation: $<0.01\%$ of max. output for 90% load change
Line regulation: $<0.01\%$ of max. output for 10% line change
Remote sense: Eliminates up to 0.5V drop per lead.
Ripple and noise: Typically $<1mV$ rms
Transient response: $<20\mu sec$ to $<50mV$ for 90% load change
Temp. coefficient: Typically $<100ppm/^{\circ}C$
Meter type: Dual 4 digit with 12.5mm LEDs
Reading rate: 4 per second

Logic output - PL330TP

Voltage range: 4 to 6V in 10mV steps
Output current: 1 to 7A in approximately 1A steps
Setting accuracy: Voltage: $\pm(0.2\% + 10mV)$
Output switch: Electronic by interface command (front panel output switch must be set to ON)
Readback resolution: Current: 10mA
Readback accuracy: Current: $\pm(0.5\%$ of reading + 1 digit)
Output protection: Over-voltage protection operates above 7V; Diode clamped for reverse currents up to 3A
Load regulation: $<0.01\%$ of max. output for 90% load change
Line regulation: $<0.01\%$ of max. output for 10% line change
Remote sense: Eliminates up to 0.5V drop per lead.
Ripple and noise: Typically $<1mV$ rms
Temp. coefficient: Typically $<100ppm/^{\circ}C$
Meter type: 3 digit with 12.5mm LEDs. Reading rate 4/s

Remote control interfaces

Both interfaces feature full control, readback and status reporting.
RS232: Variable Baud rate (9600 maximum), 9-pin D-connector (female). Fully compatible with ARC (Addressable RS232 Chain) system
GPIB: Conforming with IEEE-488.1 and IEEE-488.2
Address selection: By rear panel DIP switch
Remote/local: Selected by front panel switch
Remote command response time: Interface: $<15ms$ (single command, input buffer empty)
Output voltage - Up: Time constant typically 2ms, e.g. 10ms to settle $<1\%$ of a step change, 15ms to settle $<0.1\%$.
Time constant determined by the discharge of the power supply output capacitor (47 μF); typically $<10ms$ to settle within 1% for a 10V step change at 50mA load current; typically $<200ms$ to settle within 1% at zero load
Typically 50ms to settle $<10mA$ for a 1A change
Output current: General
Power requirements: 110V, 120V, 220V or 240VAC 50/60Hz $\pm 10\%$
Operating range: $-5^{\circ}C$ to $+40^{\circ}C$, 20% to 80% RH
Storage range: $-20^{\circ}C$ to $+60^{\circ}C$
Size: 170(H) x 300(D) x 207(W)
Weight: 6.5kg (PL330P), 12.5kg (PL330DP), 16kg (PL330TP)
Rack mount option: 19 inch 4U mount for two PL330P or one PL330DP/TP Anti-tamper cover for security
Electrical safety: Designed and manufactured to comply with IEC 348 and IEC1010-1. Full safety sockets available to special order
EMC: Designed and manufactured to comply with EN50081-1 and EN50082-1

Type	Order code	1+
PL303QMD PSU	85-1321	395.00

400520



30V Dual output LCD PSU

A power supply featuring dual variable outputs and dual ammeter and voltmeter displays.

This cost effective unit can be used in constant voltage and constant current modes as well as the outputs being configurable to work independently, in series or in parallel.

- Dual 5A maximum outputs
- Independent, series and parallel modes
- $3\frac{1}{2}$ digit LCD displays give voltmeter and ammeter for each output
- Adjustment of both voltage and current
- Overcurrent and short circuit protection



Technical specification

Input voltage: 220 to 240V AC
Output voltage: 2x 0 - 30V
Output current: 2x 0 - 5A
Source effect: $<0.02\% + 1mV$
Load effect: $<0.01\% + 5mV$
Ripple and noise: $<1mV$ rms

Display accuracy: Voltage $\pm 1\% + 2$ digits
Current $\pm 1.5\% + 2$ digits

Dimensions (mm): 365 x 265 x 164
Weight (kg): 12

Type	Output current	Order code	1+	3+	10+
Twin O/P PSU	2x 0-5A	85-1861	265.55	227.67	209.86

74613



Triple output 30V linear bench PSUs

A range of general purpose benchtop linear PSUs that feature dual outputs of 0V to 30V variable and a 5V 3A fixed output.

- Constant voltage and constant current modes
- Features two large red $3\frac{1}{2}$ digit LED displays for ease of viewing
- External switching for independent, tracking, series and parallel modes of operation
- Supplied with mains leads and operating manuals
- **The photograph is for illustration purposes only**



Image is for illustration purposes only

Technical specification

Model	HY3002-3	HY3003-3	HY3005-3
Order code	85-1761	85-1762	85-1763
Input voltage	110V/220V AC	110V/220V AC	110V/220V AC
Output voltage	2 x 0-30V and 1 x 5V fixed	2 x 0-30V and 1 x 5V fixed	2 x 0-30V and 1 x 5V fixed
Output current	2 x 0-2A and 3A fixed	2 x 0-3A and 3A fixed	2 x 0-5A and 3A fixed
Accuracy	1% voltage, 2% current	1% voltage, 2% current	1% voltage, 2% current
Ripple and noise	$\leq 1mV$ rms	$\leq 1mV$ rms	$\leq 1mV$ rms
Dimensions	365 x 265 x 164mm	365 x 265 x 164mm	365 x 265 x 164mm

Type	Output current	Order code	1+	3+
30V PSU	2A	85-1761	93.51	
30V PSU	3A	85-1762	131.96	120.83
30V PSU	5A	85-1763	147.01	133.64

81535

New products
THOUSANDS of new products now available



Single and dual power supplies



A pair of single and dual digitally metered power supplies providing outputs of up to 2A at 32V.

- Dual power supply incorporates push button selection of four different modes of operation
- Twin outputs on the dual supply may be isolated, connected in series to provide up to 4A at 32V or in series
- Master unit dictates equal voltages on both supplies
- High resolution controls enable precise setting of voltage and current levels
- High accuracy digital meters provide clear, unambiguous readings
- Carefully designed to give the user not just greater precision, but greater clarity, more control and unrivalled ease of use
- Units incorporate digital meters with a 3.75 digit scale length (4095 counts) to provide greater accuracy and resolution than other PSUs
- Large, bright LEDs give a clear and unambiguous reading
- Update rate of 4 per second provides near instantaneous response
- Separate meters are used for voltage and current, eliminating the need for meter function switches
- Damping switch for the current meter simplifies measurements on rapidly varying loads
- Units incorporate integrated fan

Technical specification

Main outputs	
Output range:	PL320 0-2.1A nominal 0-32V PL320QMD 2 x 0-2.1A nominal 2 x 0-32V
Output voltage setting	By coarse and fine controls; resolution better than 5mV across the range
Output current setting	By single logarithmic control
Output mode	The power supply operates in constant current or constant voltage modes with automatic cross-over. Decimal points flash to indicate constant current mode. Isolated, True parallel, Series or Series Tracking via front panel switches.
Config. selection (QMD only)	
Output switch	
Output terminals	4mm terminals on 19 (0.75in) spacing
Output impedance	Constant Voltage: typically 5mΩ at 1kHz
Constant current:	Typically 50kΩ with voltage limit at maximum
Output protection	Up to max. output voltage +20V forward; diode clamped for reverse current.
Load regulation	0.01% of maximum output for 90% load change
Power requirements	
Input voltage	Internally set for 110, 120, 220 or 240V AC 50/60Hz
Input voltage range	±10% of voltage setting
Power consumption	PL320:- 150VA PL320QMD: 300VA
Environmental	Operating range: -5°C to +40°C, 2% to 80% RH. Storage range: -20°C to +60°C
Weight	PL320: 5.0kg. PL320QMD: 9.5kg.
Size	PL320: 155w x 170h x 265d mm PL320QMD: 350(W) x 170(H) x 300(D) mm
Electrical safety	Designed and manufactured to comply with IEC348 and IEC1010-1.
Full safety sockets	Available to special order.
EMC	Designed and manufactured to comply with EN50081-1 and EN50082-1

type	Order code	1+
PL320	85-1780	292.13

65051



TSX Series high power switch mode PSUs



This range of high power PSUs are state of the art units that combine high power capability with precise performance and ease of use. Available in a choice of output levels and with either conventional analogue controls or versatile programmable keyboard controls. An innovative hybrid regulator design means that these power supplies are compact and lightweight yet boast unrivalled performance, comparable to that of linear PSUs.

- Maximum power output 350 or 360W
- 35V, 10A and 18V, 20A versions
- Very low noise and excellent transient response
- Constant voltage and constant current operation with automatic crossover
- Comprehensive protection including variable OVP trip
- High setting resolution of 10mV/10mA with coarse and fine controls
- Front and rear terminals
- Remote sense terminals
- High accuracy digital meters with current meter damping
- Separate voltmeter and ammeter with 12.5mm LED display
- Silent, fan free operation
- Keyboard setting of all parameters (TSX1820P/3510P only)
- Auxiliary display for checking settings prior to execution (TSX1820P/3510P only)
- Full bus control via RS-232/GPIB (TSX1820P/3510P only)

- Fully programmable with bus readback of voltage and current (TSX1820P/3510P only)
- Complies with EN61010-1 and EN61326
- Thurlby Thandar PSA1301T

Technical specification

Mfrs. pt. no.	TSX1820	TSX1820P	TSX3510	TSX3510P
Order code	85-1776	85-1777	85-1778	85-1779
Control interface	Analogue	Digital	Analogue	Digital
Voltage range	0V to +18V	0V to +18V	0V to +35V	0V to +35V
Current range	0A to 20A	0A to 20A	0A to 10A	0A to 10A
Power	360W	360W	350W	350W

Protection functions	Overvoltage trip Regulator overtemperature Sense miswiring
Status indication	Output on Constant voltage mode Constant current mode Trip message on display
Output terminals	4mm output terminals at front Screw terminals for output and sense at rear
Output protection	Full forward and reverse protection via OVP and diode clamp
AC Input	110 to 120V AC or 220 to 240V AC 47 to 63Hz
Power requirement	600VA
Dimensions L x W x H (mm)	350 x 210 x 130 (half rack width x 3U height)
Weight (kg)	5 TSX versions 5.5 TSX-P versions
Operating temperature	+5°C to +40°C @20-80% RH
Storage temperature	-40°C to +70°C

For detailed technical specifications please see data sheet available at www.rapidonline.com or contact Rapid Electronics

type	Interface	Order code	1+
18V PSU	Analogue	85-1776	511.00
18V PSU	Digital	85-1777	721.00
35V PSU	Analogue	85-1778	488.00
35V PSU	Digital	85-1779	697.00

74710

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Compact bench linear PSUs



- The **EL series** of linear PSUs have been designed to meet the need for a compact power supply that provides good performance at a low price.
- Single, dual and triple output models
 - Power from 30W to 125W
 - Voltage from 15V to 60V
 - Compact design takes up minimal bench space
 - Linear regulation
 - Quiet operation
 - Excellent line and load regulation
 - Low Noise
 - Good transient response
 - Constant voltage and constant current modes with automatic crossover
 - Coarse and fine voltage control
 - Logarithmic current control enabling low currents to be accurately set
 - Separate digital voltmeter and ammeter for each main output
 - Current limit settings are displayed when output switch is off, enabling verification of settings
 - Bright LED display with 14mm high characters and an update rate of four per second
 - All outputs short circuit proof and protected against external voltages and reverse currents
 - **EL302P** model features an RS-232 interface to give a basic programmable PSU
 - Complies with **EN61010-1** and **EN61326**
 - **Thurby Thandar EL series**

Technical specification		Output		Max.		Features	Order code
Mfrs. pt. no.	pt. no.	Output voltage	current	power			
EL155	0-15V	5A	75W				85-2196
EL183	0-18V	3.3A	60W				85-2192
EL301	0-30V	1A	30W				85-2191
EL302	0-30V	2A	60W				85-2193
EL302P	0-30V	2A	60W		Programmable via RS-232		85-2194
EL303	0-30V	3A	90W				85-2197
EL561	0-56V	1.1A	60W				85-2195
EL302D	2x 0-30V	2x 2A	120W		Dual output		85-2198
or	1x 0-60V	1x 4A					
EL155	250	295	140	160	5		
EL183	160	295	140	160	4.4		
EL301	85	295	140	160	3.4		
EL302	160	295	140	160	4.4		
EL302P	160	295	140	160	4.4		
EL303	250	295	140	160	5		
EL561	160	295	140	160	4.4		
EL302D	320	295	260	160	7.5		
EL302T	320	295	260	160	7.5		

AC Input 115V or 230V AC 50/60Hz
Cooling Silent fan less convection cooling
Output terminals 4mm binding post terminals
Operating temperature +5°C to +40°C @20 to 80% RH
Storage temperature -40°C to +70°C

Voltage	Current	Order code	1+
Single output			
15V	5A	85-2196	171.72
18V	3.3A	85-2192	149.46
30V	1A	85-2191	135.68
30V	2A	85-2193	149.46
30V (with RS-232)	2A	85-2194	213.06
30V	3A	85-2197	171.72
56V	1.1A	85-2195	149.46
Dual output			
2x 30V	2x 2A	85-2198	259.70

74714

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High power compact bench switch mode PSUs



- The **EX series** of switch mode PSUs provide high levels of power at a very affordable price. By combining switch-mode pre-regulation with linear post-regulation, performance levels comparable to an all linear design have been achieved.
- Single, dual and triple output models
 - Power from 175W to 420W
 - Voltage from 18V to 150V
 - Compact design takes up minimal bench space
 - Quiet operation
 - Mixed-mode regulation
 - Excellent line and load regulation
 - Low Noise
 - Good transient response
 - High power efficiency
 - Constant voltage and constant current modes with automatic crossover
 - Coarse and fine voltage control
 - Logarithmic current control enabling low currents to be accurately set
 - Separate digital voltmeter and ammeter for each main output
 - Current limit settings are displayed when output switch is off, enabling verification of settings
 - Bright LED display with 14mm high characters and an update rate of four per second
 - All outputs short circuit proof and fully protected against external voltages and reverse currents
 - **EX-R** models feature remote sensing
 - **EX355P** model features an RS-232 interface to give a basic programmable PSU
 - Complies with **EN61010-1** and **EN61326**
 - **Thurby Thandar EX series**

Technical specification	
Output parameters	
Period range	100ns to 10s (10MHz to 0.1Hz)
Period jitter	<0.1%
Pulse width range	50ns to 5s
Pulse width jitter	<0.1%
Delay range	50ns to 5s
Operation modes	Run Triggered Gated Continuous generation 0.1Hz to 10MHz DC to 10MHz triggered pulse train 0.1Hz to 10MHz set pulse train
Pulse modes	Normal Squarewave Double pulse 1 pulse/period 0.1Hz to 10MHz with mark/space ratio 1:1 2nd pulse generated according to delay control Pulse generated according to delay control
Outputs	
50Ω output	Amplitude 0.1-1V or 1-10V switchable 10ns typ. Rise/fall time
Aux output	50Ω output at TTL/CMOS level
Sync output	Amplitude Positive going pulse at TTL/CMOS level Timing Leading edge starts >20ns before output transition Duration 30ns typ. Inverts AUX and 50Ω outputs
Complement switch	
Inputs	
Gate/trig input	Frequency range DC - 10MHz Signal range TTL threshold: max. input ±10V Min. pulse width >30ns Input impedance 10kΩ typ.
General	
AC Input	115 or 230V AC 50/60Hz
Dimensions	230(L) x 220(W) x 140(H) mm
Weight	1.6kg
Operating temperature	+5°C to +40°C @20-80% RH
Storage temperature	-40°C to +70°C

For detailed technical specifications please see data sheet available at www.rapidonline.com or contact Rapid Electronics

Voltage	Order code	1+
Single output		
18V	85-2020	264.00
20V	85-2021	371.00
35V	85-2018	241.00
35V (with RS-232)	85-2019	305.28
42V	85-2022	518.00
Dual output		
2x 35V	85-2023	366.00
2x 75V	85-2024	422.00
Triple output		
3x 35V	85-2025	409.00

74713



1.5-5V 2A EL302RT

The Thurlby Thander EL302RT has been developed from the top selling EL series. By adding four digit meters and switchable remote sensing, the Thurlby Thander EL302RT offers much higher precision whilst retaining the simplicity of operation which many bench-top power supply users prefer.



The Thurlby Thander EL302RT uses true linear regulation for the best possible performance. Excellent line and load regulation is matched by very low output noise and good transient response.

It also incorporates separate voltage and current meters on each main output with a resolution of 10mV and 1mA. The fixed resolution avoids the misinterpretation of readings that can occur with auto-ranging 3 or 3½ digit meters where the decimal point position moves as the reading changes.

Each main output of the Thurlby Thander EL302RT has a DC on-off switch. This enables voltage and current settings to be viewed before the load is connected and allows multiple outputs to be controlled individually. Surprisingly, many power supplies omit this essential feature.

The Thurlby Thander EL302RT uses classic analog controls for voltage and current. The large and bright displays have a fixed resolution to avoid confusion. Preset voltage and current levels are shown when the DC output switch is turned off. Remote sense is available when needed but is disabled by setting the switch to local.

- Single outputs, 30V/1A, 18V/3.3A, 56V/1.1A, 15V/5A, 30V/3A
- Single, dual or triple outputs, 30V/2A
- Independent digital voltage and current meters for each output with 4 digit resolution
- Switchable local or remote sensing
- Constant voltage or constant current operation
- Variable 1.5 to 5.0V auxiliary output at 2A (EL302RT)
- Compact design uses less bench space
- Silent fan-free cooling
- DC output switches, automatic mode indication
- Manufacturers part no. **Thurlby Thander EL302RT**

Technical specification

Output setting and control

Voltage setting: By coarse and fine controls
Current setting: By single logarithmic control
Output mode: Constant voltage or constant current with automatic cross-over
CC indicator lit in constant current mode
Electronic, non isolating. Preset voltage and current limit displayed when output is off. On state indicated by LED

Output performance

Ripple and noise: Typically <1mV rms, (CV mode, 20MHz bandwidth)
Load regulation: <0.1% of maximum output for a 90% load change (using remote sense)
Transient response: <50µs to within 50mV of setting for a 5% to 95% load change
Temp. coefficient: Voltage: typically <100ppm/°C

Output protection

Output protection: Output will withstand forward voltages of up to 20V above rated output voltage. Reverse protection by diode clamp for currents to 3A

Output connections

Output terminals: Universal 4mm safety binding posts on 19mm spacing

Remote sense

Sense selection: Voltage sensing is selected as Local or Remote by front panel switch
Sense terminals: Sprung loaded screw-less terminals

Meter specifications

Display type: Dual 4-digit meters, 14mm LED

Voltage meter

Resolution: 10mV
Accuracy: 0.3% of reading ±3 digits

Current meter

Resolution: 1mA
Accuracy: 0.5% of reading ±3 digits

Auxiliary output

Voltage: Variable <1.5V to >5V by front panel control
Meter accuracy: 0.3% ± 4 digits
Current limit: 2A minimum
Load regulation: <3% for 90% load change
Line regulation: <0.2% for 10% line voltage change
Ripple and noise: Typically <5mVrms, <15mVpk-pk (20MHz bandwidth)
Output protection: Output will withstand up to 7V forward voltage
Diode clamp reverse protection for currents up to 3A
Universal 4mm safety binding posts on 19mm spacing

Output terminals: UNREG lamp

General specifications

Input

AC Input: 230V AC or 115V AC ± 10%, 50/60Hz. Installation Category II
EL301R - 85 VA; EL302R, EL302P, EL183R, EL561R - 160VA
EL155R, EL303R - 250VA; EL302RD, EL302RT - 320VA

Temperature and environmental

Operating range: +5°C to +40°C, 20% to 80% RH
Storage Range: -40°C to + 70°C
Environmental: Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling: Silent fan-less convection cooling.

Safety and EMC

Safety: Complies with EN61010-1
EMC: Complies with EN61326

Physical

Size: Single output models - 140(W) x 160(H)x295(D)mm

Type	Order code	1+
EL series EL302RT	85-4566	282.47

517069



Single 0-35V/0-5A QL355

The Thurlby Thander Single QL355 offers an unparalleled level of precision. Voltage and current are controlled using instrumentation quality 16-bit DACs enabling voltages to be set to 1mV resolution even at full output voltage. Indeed, the accuracy is sufficient for the QL to be used as a calibration source for some hand-held DMMs.



The Thurlby Thander Single QL355 provides multiple ranges for increased current capability at lower voltages. The QL355 uses pure linear technology and offers unrivalled performance in terms of regulation, output noise and dynamics. Line and load regulation are close to the limit of measurement. Recovery time from transient current pulses is better than 50µs.

Of equal importance for critical applications in areas such as telecoms is common mode noise current (the noise current flowing between the output terminals and ground). This is less than 4µA rms on the QL355 dramatically better than most other PSUs.

- Single output or triple output models
- Setting by direct numeric entry or spin wheel
- 1mV resolution at up to 56V
- Multiple ranges for increased current flexibility
- Multiple non-volatile setting memories
- OVP and OCP trips with alarm output
- Selectable remote sense terminals
- Linked-mode operation of main outputs (triple)
- Auxiliary output variable 1.00V to 6.00V at 3A (triple)
- Manufacturers part no. **Thurlby Thander QL355**

Technical specification

Max. output power: 105W
Output ranges: Range 1: 0 to 0 to 35V, 0 to 3A
Range 2: 0 to 15V, 0 to 5A
Range 3: 0 to 35V, 0 to 500.0mA
By floating point numeric entry or rotary jog wheel; resolution 1mV
Current setting: By floating point numeric entry or rotary jog wheel; resolution 1mA or 0.1mA depending on range
Setting accuracy: Voltage - 0.03% ±5mV Current 0.2% ±5mA/0.5mA
Output mode: Operation in constant voltage or constant current modes with automatic cross-over and mode indication by LEDs

DC Output switch:

Output terminals: Sets output voltage and current levels to zero when off
4mm safety binding post terminals on 19mm spacing

Input

AC Input: 230V AC or 115V AC ±10%, 50/60Hz Installation Category II.
Input power: Single - 250VA max, Triple - 500VA max

Temperature and environmental

Operating range: +5°C to +40°C, 20% to 80% RH
Storage range: -40°C to + 70°C
Environmental: Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling: Intelligent variable-speed fan. Over-temperature trip shuts down output if internal temperatures exceed predetermined thresholds

Safety and EMC

Safety: Complies with EN61010-1
EMC: Complies with EN61326

Physical

Size: Single - 140 x 160 (1/3 rack, 4U) x 290mm
Triple - 280 x 160 (2/3 rack, 4U) x 290mm
(size excludes feet, knobs and terminals)
Weight: Single - 5.5kg, Triple - 10.5kg

Type	Order code	1+
QL Series QL355	85-4567	336.23

517070

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Single 0-56V/0-4A QL564

The Thurby Thander Single QL564 offers an unparalleled level of precision. Voltage and current are controlled using instrumentation quality 16-bit DACs enabling voltages to be set to 1mV resolution even at full output voltage. Indeed, the accuracy is sufficient for the QL to be used as a calibration source for some hand-held DMMs.

The Thurby Thander Single QL564 provides multiple ranges for increased current capability at lower voltages. The QL564 uses pure linear technology and offers unrivalled performance in terms of regulation, output noise and dynamics. Line and load regulation are close to the limit of measurement. Recovery time from transient current pulses is better than 50µs.

Of equal importance for critical applications in areas such as telecoms is common mode noise current (the noise current flowing between the output terminals and ground). This is less than 4µA RMS on the QL564 dramatically better than most other PSUs.

- Single output or triple output models
- Setting by direct numeric entry or spin wheel
- 1mV resolution at up to 56V
- Multiple ranges for increased current flexibility
- Multiple non-volatile setting memories
- OVP and OCP trips with alarm output
- Selectable remote sense terminals
- Linked-mode operation of main outputs (triple)
- Auxiliary output variable 1.00V to 6.00V at 3A (triple)
- Manufacturers part no. **Thurby Thandar QL564**



Technical specification	
Max. output power:	105W
Output ranges:	Range 1: 0 to 56V, 0 to 2A
	Range 2: 0 to 25V, 0 to 4A
	Range 3: 0 to 56V, 0 to 500.0mA
Voltage setting:	By floating point numeric entry or rotary jog wheel; resolution 1mV.
Current setting:	By floating point numeric entry or rotary jog wheel; resolution 1mA or 0.1mA depending on range
Setting accuracy:	Voltage - 0.03% ±5mV Current 0.2% ±5mA/0.5mA
Output mode:	Operation in constant voltage or constant current modes with automatic cross-over and mode indication by LEDs
DC Output switch:	Sets output voltage and current levels to zero when off
Output terminals:	4mm safety binding post terminals on 19mm spacing
Input	
AC Input:	230V AC or 115V AC ±10%, 50/60Hz Installation Category II.
Input power:	Single - 250VA max., Triple - 500VA max.
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Intelligent variable-speed fan: Over-temperature trip shuts down output if internal temperatures exceed predetermined thresholds
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Size:	Single - 140 x 160 (1/3 rack, 4U) x 290mm Triple - 280 x 160 (2/3 rack, 4U) x 290mm (size excludes feet, knobs and terminals)
Weight:	Single - 5.5kg, Triple - 10.5kg

Type	Order code	1+
QL Series QL564	85-4568	336.23

517071



Dual QL355 plus 3.3V/5V QL355T

The QL series uses pure linear technology and offers unrivalled performance in terms of regulation, output noise and dynamics. Line and load regulation are close to the limit of measurement. Recovery time from transient current pulses is better than 50µs. Output noise is less than 350µV rms in CV mode and down to 20µA rms in CI mode, dramatically better than other PSUs



The user interface of the QL series has been painstakingly designed to provide rapid control whilst guarding against any possibility of error. Unlike other digitally controlled units, the QL series provides both numeric and rotary control. Illuminated keys and display legends provide instant confirmation of settings and status.

For those preferring quasi-analogue control, or for applications where the voltage or current must be gradually changed, the Jog wheel is available. The wheel has a positive stepped action but can be spun rapidly when required. Output voltage can be incremented or decremented in steps of 0.1V, 10mV or 1mV. Current steps can be selected from 0.1A down to 0.1mA. The Jog function can be left permanently engaged or can be disabled at the touch of a button.

- Cooled by temperature-controlled fan
- Simultaneous voltage and current readout
- Voltage and current step less adjustment
- Constant voltage or constant current operation

- Overvoltage protection
- Protection against reverse polarization
- LOCK function (settings lock)
- Coarse and fine voltage adjustment
- Manufacturers part no. **Thurby Thandar QL355T**

Technical specification	
Max. output power:	105W
Output ranges:	Range 1: 0 to 35V, 0 to 3A
	Range 2: 0 to 15V, 0 to 5A
	Range 3: 0 to 35V, 0 to 500.0mA
Voltage setting:	By floating point numeric entry or rotary jog wheel; resolution 1mV
Current setting:	By floating point numeric entry or rotary jog wheel; resolution 1mA or 0.1mA depending on range
Setting accuracy:	Voltage - 0.03% ±5mV Current 0.2% ±5mA/0.5mA
Output mode:	Operation in constant voltage or constant current modes with automatic cross-over and mode indication by LEDs
DC Output switch:	Sets output voltage and current levels to zero when off
Output terminals:	4mm safety binding post terminals on 19mm spacing
Input	
AC Input:	230V AC or 115V AC ± 10%, 50/60Hz Installation Category II.
Input power:	Single - 250VA max., Triple - 500VA max.
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Intelligent variable-speed fan: Over-temperature trip shuts down output if internal temperatures exceed predetermined thresholds
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Size:	Single - 140 x 160 (1/3 rack, 4U) x 290mm Triple - 280 x 160 (2/3 rack, 4U) x 290mm (size excludes feet, knobs and terminals)
Weight:	Single - 5.5kg, Triple - 10.5kg

Type	Order code	1+
Dual QL355	85-4569	652.42

517072



Single 0-250V/0-0.375A PLH250

The Thurby Thander PLH250 retains the ultra compact format, high power density, and smart analog controls of the PL series but offers voltages up to 250V to cover applications beyond the capabilities of standard bench PSUs and into areas such as magnetics.



As technology has changed, many products have moved from analog controls to digital ones. Although digital controls suit many instruments, they do not necessarily suit a bench power supply. Customer research shows that many users prefer the speed and simplicity of conventional analog controls for setting voltage and current. Digital controls may offer greater precision, but often at the expense of ease of use. With this in mind, the Thurby Thander PLH250 has retained the true analog controls of its best selling sister products, the PL series.

The main disadvantage of analog controls is stability and security. The settings of analog potentiometers can drift over time. More importantly, the settings can be changed accidentally with potentially serious consequences. The Thurby Thander PLH250 incorporates S-Lock. One press of the Lock button transfers control of voltage and current from the analog controls to internal digital circuitry. This offers not just complete security, but exceptional stability as well with each setting controlled by an instrumentation quality DAC.

- Single output 120V 90W or 250V 94W
- Linear regulation - for the best performance
- Ultra-compact design - uses up less space
- True Analog controls - for ease of use
- S-Lock function instantly lock settings
- V-Span function customise the voltage range
- Low current range and current meter averaging
- DC output switches and view limits button
- Selectable remote sense terminals
- Manufacturers part no. **Thurby Thandar PLH250**

Technical specification	
Input	
AC Input:	230V AC or 115V AC ±10%, 50/60Hz, installation category II
Input power:	280VA max.
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Intelligent variable-speed low noise fan assists convection.
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Size:	PLH models - 107mm x 131mm (1/4 rack 3U) x 288mm PLH-P models - 107mm x 131mm (1/4 rack 3U) x 315mm (sizes exclude feet, knobs and terminals)
Weight:	PLH models - 4.9kg PLH-P models - 5.0kg

Type	Order code	1+
Single PLH250	85-4574	296.14

517073



Twin 420 'PowerFlex' Max 60V or 20A CPX400D

The Thurlby Thander CPX400D is a different type of laboratory power supply designed to meet the need for flexibility in the choice of voltage and current. A conventional PSU has a fixed current limit giving a power capability that reduces directly with the output voltage. The Thurlby Thander CPX400D Power Flex design enables higher currents to be generated at lower voltages within an overall power limit envelope.



Each output can provide considerably higher current than a conventional PSU of the same maximum voltage and power (see power curve). Example voltage and current combinations include 60V/7A, 42V/10A, 28V/15A, and 20V/20A.

As technology has changed, many products have moved from analog controls to digital ones. Although digital controls suit many instruments, they do not necessarily suit a bench power supply. Customer research shows that many users prefer the speed and simplicity of conventional analog controls for setting voltage and current. Digital controls may offer greater precision, but often at the expense of ease-of-use. With this in mind, the CPX400D retains the true analog controls of its predecessor. The main disadvantage of analog controls is stability and security. The settings of analog potentiometers can drift over time. More importantly, the settings can be changed accidentally with potentially serious consequences.

The Thurlby Thander CPX400D incorporates S-Lock. One press of the lock button transfers control of voltage and current from the analog controls to internal digital circuitry. This offers not just complete security, but exceptional stability as well with each setting controlled by an instrumentation quality DAC.

- Dual isolated outputs, 420W each
- Power Flex design gives variable voltage and current combinations within a maximum power range
- Higher current capability at lower voltages
- Variable OVP trips
- Precision control and metering
- Selectable remote sense terminals
- Compact half-rack 3U case size
- Manufacturers part no. **Thurlby Thander CPX400D**

Technical specification	Laboratory power supply
Power supply unit type:	2
Number of channels:	0 to 20A x2
Output current range:	0 to 60V x2
Output voltage range:	4x LED 4 digits
Display:	<3mVrms
Voltage (regulated) ripple and noise:	<0.02%
Voltage load regulation:	6.3kg
Weight:	210 x 130 x 375mm
Dimensions:	230V AC $\pm 10\%$ 50/60Hz
Power supply:	10mV
Output voltage resolution:	10mA
Output current resolution:	-5°C to +40°C
Operating temperature:	

Type	Order code	1+
Power Flex CPX400D	85-4577	774.52

517074



Dual 600W PowerFlex Max 80V or 50A; Analog QPX600D

The Thurlby Thander QPX600D is a dual output dc power supply with a maximum total output power of 1200 watts and is suited to both bench-top and system applications.



The QPX600D incorporates full digital remote control using USB, RS-232, LAN and GPIB interfaces with analog remote control.

The Thurlby Thander PX600D is a different type of laboratory power supply designed to meet the need for flexibility in the choice of voltage and current. A conventional PSU has a fixed current limit giving a power capability that reduces directly with the output voltage.

The Thurlby Thander PowerFlex+ design of the QPX600D enables higher currents to be generated at lower voltages within an overall power limit envelope. Each output can provide more than six times the current of a conventional PSU of the same maximum voltage and power (see power curve).

PowerFlex+ uses a balanced multi-phase converter system to minimise ripple and improve dynamic performance. Example voltage/current combinations include 80V/7.5A, 60V/10A, 40V/15A, 28V/20A, 18V/30A and 10V/50A. The QPX600D can be operated as two entirely independent power supplies, each with its own comprehensive graphic LCD display.

- Dual independent or tracking 600W outputs
- Ultra wide range of voltage/current combinations
- Up to 80V and up to 50A within each power envelope
- Isolated tracking of voltage only, or voltage and current
- Smart metering and tracking functions facilitate series or parallel wiring for up to 160V or 100A
- Low output noise and ripple
- High setting resolution of 1mV
- Variable OVP and OCP trips

- Analog control interfaces for voltage and current
- Manufacturers part no. **Thurlby Thander QPX600D**

Technical specification	
Voltage/current levels	Range 1: 0V to 60V
Voltage range:	Range 2: 0V to 80V
Current range:	0A to 50A
Power range:	Up to 600
Operating mode:	Constant voltage or constant current with automatic cross-over and mode indication
Output setting	By floating point numeric entry or rotary jog wheel resolution 1mV for 60V range or 2mV for 80V range
Voltage setting:	By floating point numeric entry or rotary jog wheel resolution 10mA
Current setting:	Voltage: 0.1% $\pm 2mV$; 0.1% $\pm 4mV$ on 80V range
Setting accuracy:	Current: 0.3% $\pm 20mA$
Setting stores:	Up to 10 set-ups can be saved and recalled via the keyboard
Keyboard and rotary control	
Output performance	
Load regulation:	<0.01% +5mV (CV mode) for any load change within the PowerFlex envelope, using remote sense
Line regulation:	<0.01% +5mV for a 10% line voltage change
Ripple and noise:	Typically <3mV rms, <20mV pk-pk, (20MHz bandwidth)
Transient response:	<2ms to within 100mV of set level for 5% to 95% load change
Temp. coefficient:	Typically <100ppm/°C
Sensing:	Selectable local or remote sensing
Output protection	
External voltage:	Output will withstand forward voltages of up to 90V
Reverse protection by diode clamp	
Automatic protection within PowerFlex+ control system	
Failure:	The output will be shut down if any of the four trip conditions listed below occur
Over voltage (OVP):	Settable 2V to 85V in 0.1V steps
Over current (OCP):	Settable 2A to 55A in 0.1A steps
Monitors internal temperature rise to protect against excess ambient temperature or blocked ventilation slots	
Monitors the voltage between the remote sense terminals and output terminals to protect against mis-wiring	
Sense error:	
Input	
AC Input:	110V to 240V AC $\pm 10\%$, 50/60Hz. Installation Category II
Input power:	1600VA max
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Intelligent variable-speed fans
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Size:	350(W) x 130(H) x 413(D)mm
Weight:	9.2kg (20lb)

Type	Order code	1+
Dual 600W PowerFlex	85-4579	1180.00

517075



1200W PowerFlex Max 60V or 50A Analog QPX1200S

The Thurlby Thander QPX1200S is a laboratory DC power supply with a maximum total output power of 1200W and is suited to both bench-top and system applications.



The QPX1200S is a different type of laboratory power supply designed to meet the need for flexibility in the choice of voltage and current. A conventional PSU has a fixed current limit giving a power capability that reduces directly with the output voltage. The Thurlby Thander PowerFlex design of the QPX1200S enables higher currents to be generated at lower voltages within an overall power limit envelope. Each output can provide three times the current of a conventional PSU of the same maximum voltage and power. The PowerFlex regulator includes a linear output stage giving the QPX1200S exceptionally low output noise for a unit of this power, and ensuring good transient response.

The QPX1200S is housed in a 350mm wide case suitable for use on the bench-top. Output and remote sense terminals are mounted both on the front and on the rear panel along with the analog and logic interface connectors and, on the QPX1200SP, the bus interface connectors.

- PowerFlex design with 1200W maximum power
- Wide range of voltage/current combinations
- Up to 60V and up to 50A within a power envelope
- Linear final regulation provides very low output noise and fast transient response
- Setting by direct numeric entry or by spin wheel
- High setting resolution of 1mV in up to 60V
- Multiple non-volatile setting memories
- Variable OVP and OCP trips
- Low resistance and power calculation
- Analog control interfaces for voltage and current
- Bench or rack mounting with front and rear terminals
- Manufacturers part no. **Thurlby Thander QPX1200S**

Technical specification	
Voltage range:	0V to 60V
Current range:	0A to 50A
Power range:	Up to 1200W
Operating mode:	Constant voltage or constant current with automatic cross-over and mode indication
Voltage setting:	By floating point numeric entry or rotary jog wheel; resolution 1mV
Current setting:	By floating point numeric entry or rotary jog wheel; resolution 10mA
Setting accuracy:	Voltage - 0.1% $\pm 2mV$
	Current - 0.3% $\pm 20mA$
Setting stores:	Up to 10 set-ups can be saved and recalled via the keyboard
Input	
AC Input:	110V to 240V AC $\pm 10\%$, 50/60Hz. Installation Category II.
Input power:	1600VA max
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2.
Cooling:	Intelligent variable-speed fans
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Size:	350(W) x 130(H) x 413(D)mm
Weight:	9.2kg

Type	Order code	1+
1200W PowerFlex Max	85-4580	906.64

517076



Single 0-56V/0-4A USB/RS232/GPIB QL564P

The Thurlby Thander QL564P represents the next generation of laboratory power supplies offering an unparalleled level of precision and performance. The voltage and current are controlled using 16-bit DACs enabling voltages to be set to 1mV resolution even at full output. Indeed, the accuracy is sufficient for the PSU to be used as a calibration source for some hand-held DMMs.



The Thurlby Thander QL564P uses pure linear technology and offers unrivalled performance in terms of regulation, output noise and dynamics. Line and load regulation are at the limit of measurement. Output noise is less than 350µV rms. Recovery time from transient current pulses is better than 50µs.

The QL series provides full remote sense capability via dedicated sense terminals. Remote sense is essential to maintain precise regulation at the load (two 0.03Ω connection leads will drop 300mV at 5A). When remote sense is not required, internal local sensing can be selected at the touch of a button.

- Single output or triple output models
- Setting by direct numeric entry or spin wheel
- 1mV resolution at up to 56V
- Multiple ranges for increased current flexibility
- Multiple non-volatile setting memories
- OVP and OCP trips with alarm output
- Selectable remote sense terminals
- Linked-mode operation of main outputs (triple)
- Auxiliary output of 2.7, 3.3 or 5.0V at 1A (triple)
- Setting memories for added convenience
- Fast, simple, and safe to use
- Compact design for bench or rack
- Manufacturers part no. **Thurlby Thander QL564P**

Technical specification		
Max. output power:	112W	
Output ranges:	Range 1: 0 to 56V, 0 to 2A Range 2: 0 to 25V, 0 to 4A Range 3: 0 to 56V, 0 to 500.0mA	
Voltage setting:	By floating point numeric entry or rotary jog wheel; resolution 1mV	
Current setting:	By floating point numeric entry or rotary jog wheel; resolution 1mA or 0.1mA depending on range	
Setting accuracy:	Voltage: 0.03% ±5mV. Current 0.2% ±5mA/0.5mA	
Output mode:	Operation in constant voltage or constant current modes with automatic cross-over and mode indication by LEDs	
DC output switch:	Sets output voltage and current levels to zero when Off	
Output terminals:	4mm terminals on 19mm spacing	
Load regulation:	<0.01% of maximum output for 50% load change	
Line regulation:	<0.01% of maximum output for 10% line voltage change	
Ripple and noise:	Typically <0.35mV RMS	
Transient response:	<20µsec to within 15mV of setting for 90% load change	
Remote sense:	Eliminates up to 0.5V drop per lead. Remote sense operation selected from front panel and indicated by LED	
Sense terminals:	Recessed sprung sockets for direct insertion of wires	
Power requirements:	230V or 115V ± 14% (internally adjustable) Installation category 11	
Environmental:	Operating Range: 5°C to 40°C, 20% to 80% RH	
Storage range:	-20°C to +60°C	
Size:	141 x 171 x 300mm (single)	
Weight:	5 kg (single)	
Electrical safety:	Designed and manufactured to comply with IEC1010-1	
EMC:	Designed and manufactured to comply with EN61326	
Type	Order code	1+
Single QL564P	85-4582	476.56

517077



Dual QL355 plus 3.3V/5V 1A USB/RS232/GPIB QL355TP

The Thurlby Thander QL355TP represents the next generation of high performance laboratory power supplies, maintaining the tradition started with the PL series in 1980 and continued throughout more than two decades.



The Thurlby Thander QL355TP offers an unparalleled level of precision. Voltage and current are controlled using instrumentation quality 16 bit DACs enabling voltages to be set to 1mV resolution even at full output. Indeed, the accuracy is sufficient for the QL to be used as a calibration source for some hand-held DMMs.

The user interface of the QL series has been painstakingly designed to provide rapid control whilst guarding against any possibility of error. Unlike other digitally controlled units, the QL series provides both numeric and rotary control. Illuminated keys and display legends provide instant confirmation of settings and status.

- Advanced DC power supply range, single or triple output
- Very high precision, very low noise, excellent dynamics
- Advanced user interface with numeric and rotary control
- Multiple voltage/current ranges for increased flexibility

- Multiple non-volatile memories for power supply set-ups
- Switchable remote sense provides perfect load regulation
- Comprehensive protection including OVP and OCP trips
- Compact bench footprint; modular width for rack mounting
- Auxiliary output of 5.0V, 3.3V or 2.7V
- Manufacturers part no. **Thurlby Thander QL355TP**

Technical specification		
Max. output power:	112W	
Output ranges:	Range 1: 0 to 56V, 0 to 2A Range 2: 0 to 25V, 0 to 4A Range 3: 0 to 56V, 0 to 500.0mA	
Voltage setting:	By floating point numeric entry or rotary jog wheel; resolution 1mV	
Current setting:	By floating point numeric entry or rotary jog wheel; resolution 1mA or 0.1mA depending on range	
Setting accuracy:	Voltage: 0.03% ±5mV. Current 0.2% ±5mA/0.5mA	
Output mode:	Operation in constant voltage or constant current modes with automatic cross-over and mode indication by LEDs	
DC output switch:	Sets output voltage and current levels to zero when Off	
Output terminals:	4mm terminals on 19mm spacing	
Load regulation:	<0.01% of maximum output for 50% load change	
Line regulation:	<0.01% of maximum output for 10% line voltage change	
Ripple and noise:	Typically <0.35mV RMS	
Transient response:	<20µsec to within 15mV of setting for 90% load change	
Remote sense:	Eliminates up to 0.5V drop per lead. Remote sense operation selected from front panel and indicated by LED	
Sense terminals:	Recessed sprung sockets for direct insertion of wires	
Power requirements:	230V or 115V ± 14% (internally adjustable) Installation category 11	
Environmental:	Operating Range: 5°C to 40°C, 20% to 80% RH	
Storage range:	-20°C to +60°C	
Size:	141 x 171 x 300mm (single)	
Weight:	5 kg (single)	
Electrical safety:	Designed and manufactured to comply with IEC1010-1	
EMC:	Designed and manufactured to comply with EN61326	
Type	Order code	1+
Dual QL355	85-4583	812.79

517078



Single 0-120V/0-0.75A USB/RS232/LAN/ISOL Analog PLH120-P

The Thurlby Thander PLH120-P retains the ultra compact format, high power density, and smart analog controls of the PLH120-P, but offers voltages up to 120V to cover applications beyond the capabilities of standard bench PSUs and into areas such as magnetics.



As technology has changed, many products have moved from analog controls to digital ones. Although digital controls suit many instruments, they do not necessarily suit a bench power supply. Customer research shows that many users prefer the speed and simplicity of conventional analog controls for setting voltage and current. Digital controls may offer greater precision, but often at the expense of ease of use. With this in mind, the Thurlby Thander PLH120-P has retained the true analog controls of its best selling sister products, the PL series.

The main disadvantage of analog controls is stability and security. The settings of analog potentiometers can drift over time. More importantly, the settings can be changed accidentally with potentially serious consequences. The Thurlby Thander PLH120-P incorporates S-Lock. One press of the Lock button transfers control of voltage and current from the analog controls to internal digital circuitry. This offers not just complete security, but exceptional stability as well with each setting controlled by an instrumentation quality DAC.

- High performance linear regulated power supplies
- Full digital remote control and read back
- RS-232, USB and LAN (Ethernet), GPIB optional
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Isolated Analog remote control of V and I
- Front and rear terminals
- Selectable remote sense terminals
- Ultra-compact size of quarter-rack 3U
- High power density, up to 94W per output
- Manual control features as per PLH Series
- Manufacturers part no. **Thurlby Thander PLH120-P**

Technical specification		
Input		
AC Input:	230V AC or 115V AC ±10%, 50/60Hz. Installation category II	
Input power:	280VA max.	
Temperature and environmental		
Operating range:	+5°C to +40°C, 20% to 80% RH	
Storage range:	-40°C to +70°C	
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2	
Cooling:	Intelligent variable-speed low noise fan assists convection.	
Safety and EMC		
Safety:	Complies with EN61010-1	
EMC:	Complies with EN61326	
Physical		
Size:	PLH models - 107mm x 131mm (1/4 rack 3U) x 288mm PLH-P models - 107mm x 131mm (1/4 rack 3U) x 315mm (sizes exclude feet, knobs and terminals)	
Weight:	PLH models - 4.9kg PLH-P models - 5.0kg	
Type	Order code	1+
Single 0 to 120V	85-4588	396.37

517079



Single 0-250V/0-0.375A USB/RS232/LAN/ISOL Analog PLH250-P

The Thurlby Thander PLH250-P retains the ultra compact format, high power density, and smart analog controls of the PLH250-P but offers voltages up to 250V to cover applications beyond the capabilities of standard bench PSUs and into areas such as magnetics.

As technology has changed, many products have moved from analog controls to digital ones. Although digital controls suit many instruments, they do not necessarily suit a bench power supply. Customer research shows that many users prefer the speed and simplicity of conventional analog controls for setting voltage and current. Digital controls may offer greater precision, but often at the expense of ease of use. With this in mind, the Thurlby Thander PLH250-P has retained the true analog controls of its best selling sister products, the PL series.

The main disadvantage of analog controls is stability and security. The settings of analog potentiometers can drift over time. More importantly, the settings can be changed accidentally with potentially serious consequences. The Thurlby Thander PLH250-P incorporates S-Lock. One press of the Lock button transfers control of voltage and current from the analog controls to internal digital circuitry. This offers not just complete security, but exceptional stability as well with each setting controlled by an instrumentation quality DAC.

- High performance linear regulated power supplies
- Full digital remote control and read back
- RS-232, USB and LAN (Ethernet), GPIB optional
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Isolated Analog remote control of V and I
- Front and rear terminals
- Selectable remote sense terminals
- Ultra-compact size of quarter-rack 3U
- High power density, up to 94W per output
- Manufacturers part no. **Thurlby Thander PLH250-P**

Technical specification	
Input	
AC Input:	230V AC or 115V AC $\pm 10\%$, 50/60Hz, installation category II
Input power:	280VA max.
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Intelligent variable-speed low noise fan assists convection.
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Size:	PLH models - 107mm x 131mm (1/4 rack 3U) x 288mm PLH-P models - 107mm x 131mm (1/4 rack 3U) x 315mm (sizes exclude feet, knobs and terminals)
Weight:	PLH-P models - 5.0kg

Type	Order code	1+
Single PLH250-P	85-4589	423.71

517080



Single 0-120V/0-0.75A USB/RS232/LAN/GPIB PLH120-P (G)

The Thurlby Thander PLH120-P (G) retains the ultra compact format, high power density, and smart analog controls of the PLH120-P (G), but offers voltages up to 120V to cover applications beyond the capabilities of standard bench PSUs and into areas such as magnetics. This particular model is fitted with GPIB (option G) being an (IEEE-488) interface in addition to USB, RS232 and LAN.

The Thurlby Thander PLH120-P (G) achieves an exceptional power density for a linear regulated power supply by offering up to 94W from a $\frac{1}{4}$ rack 3U sized casing. This gives it an unusually small bench footprint taking up less space on a crowded bench. For rack-mount application, up to four units can be mounted into a single slot. Despite its small size and linear regulation, the Thurlby Thander PLH120-P (G) generates relatively little heat through the use of an advanced phase controlled pre-regulator. This gives it significantly higher energy efficiency than conventional linear regulated designs, particularly when supplying voltages below maximum.

The internal heat-sinks use fan-assisted convection cooling in order to remove the heat with minimal fan noise.

The Thurlby Thander PLH120-P (G) includes all of the manual control features of the PLH series, but adds comprehensive remote control facilities. The ultra-compact rack-modular sizing makes it ideally suited to rack mounted system applications, while its



user-friendly manual controls are retained for bench top applications. Power output terminals are duplicated on the rear panel for rack mount applications or other situations where rear connection is more appropriate.

- High performance linear regulated power supplies
- Full digital remote control and read back
- RS-232, USB and LAN (Ethernet), GPIB optional
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Isolated Analog remote control of V and I
- Front and rear terminals
- Selectable remote sense terminals
- Ultra-compact size of quarter-rack 3U
- High power density, up to 94W per output
- Manual control features as per PLH Series
- Manufacturers part no. **Thurlby Thander PLH120-P (G)**

Technical specification	
Input	
AC Input:	230V AC or 115V AC $\pm 10\%$, 50/60Hz, installation category II
Input power:	280VA
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Intelligent variable-speed low noise fan assists convection.
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Size:	PLH models - 107mm x 131mm (1/4 rack 3U) x 288mm PLH-P models - 107mm x 131mm (1/4 rack 3U) x 315mm (sizes exclude feet, knobs and terminals)
Weight:	PLH-P models - 5.0kg

Type	Order code	1+
GPIB PLH120-P (G)	85-4594	441.93

517081



Single 0-250V/0-0.0375A USB/RS232/LAN/GPIB PLH250-P(G)

The Thurlby Thander PLH250-P(G) retains the ultra compact format, high power density, and smart analog controls of the PLH250-P(G), but offers voltages up to 250V to cover applications beyond the capabilities of standard bench PSUs and into areas such as magnetics. This particular model is fitted with GPIB (option G) being an (IEEE-488) interface in addition to USB, RS232 and LAN.

The Thurlby Thander PLH250-P(G) achieves an exceptional power density for a linear regulated power supply by offering up to 94W from a $\frac{1}{4}$ rack 3U sized casing. This gives it an unusually small bench footprint taking up less space on a crowded bench. For rack-mount application, up to four units can be mounted into a single slot. Despite its small size and linear regulation, the Thurlby Thander PLH250-P(G) generates relatively little heat through the use of an advanced phase controlled pre-regulator. This gives it significantly higher energy efficiency than conventional linear regulated designs, particularly when supplying voltages below maximum.

The internal heat-sinks use fan-assisted convection cooling in order to remove the heat with minimal fan noise.

The Thurlby Thander PLH250-P(G) includes all of the manual control features of the PLH series, but adds comprehensive remote control facilities. The ultra-compact rack-modular sizing makes it ideally suited to rack mounted system applications, while its user-friendly manual controls are retained for bench top applications. Power output terminals are duplicated on the rear panel for rack mount applications or other situations where rear connection is more appropriate.

- High performance linear regulated power supplies
- Full digital remote control and read back
- RS-232, USB and LAN (Ethernet), GPIB optional
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Isolated Analog remote control of V and I
- Front and rear terminals
- Selectable remote sense terminals
- Ultra-compact size of quarter-rack 3U
- High power density, up to 94W per output
- Manual control features as per PLH Series
- Manufacturers part no. **Thurlby Thander PLH250-P(G)**

Technical specification	
Input	
AC Input:	230V AC or 115V AC $\pm 10\%$, 50/60Hz, installation category II
Input power:	280VA max.
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	2 Intelligent variable-speed low noise fan assists convection.
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Size:	PLH models - 107mm x 131mm (1/4 rack 3U) x 288mm PLH-P models - 107mm x 131mm (1/4 rack 3U) x 315mm (sizes exclude feet, knobs and terminals)
Weight:	PLH-P models - 5.0kg

Type	Order code	1+
GPIB PLH250-P(G)	85-4595	469.27

517082



Single 420W PowerFlex Max 60V or 20A
USB/RS232/LAN CPX400SP

The CPX series is a different type of laboratory power supply designed to meet the need for flexibility in the choice of voltage and current. A conventional PSU has a fixed current limit giving a power capability that reduces directly with the output voltage. The TTI PowerFlex design of the CPX series enables higher currents to be generated at lower voltages within an overall power limit envelope.



Each output can provide considerably higher current than a conventional PSU of the same maximum voltage and power. The two outputs of the CPX400D are completely independent and electrically isolated from each other. With V-Track selected, the two outputs remain electrically isolated, but the voltage control of the Master output sets an identical voltage on the Slave output.

This enables the user to create two rails of either polarity and to reference them to different grounds if necessary (e.g. digital ground and analog ground). Alternatively the outputs can be wired in series or parallel to create a voltage capability up to 120V or a current capability up to 40A with the voltage set using a single control.

- PowerFlex design gives variable voltage and current
- combinations within a maximum power envelope
- Up to 60V and up to 20A per output (420W maximum)
- Constant voltage or constant current operation
- Low output noise and good transient response
- PowerFlex or fixed-range operation plus custom limits
- True analogue controls with digital settings locking
- Independent outputs or isolated voltage tracking (dual)
- Outputs can be wired in series or parallel for 120V or 40A
- Variable OVP trips; safety binding-post terminals
- 4 digit fixed resolution meters; selectable remote sensing
- Compact 1/2 rack 3U case (dual) or 1/4 rack 3U case (single)
- Duplicate terminals at rear
- GPIB, RS-232, USB and LAN interfaces with LXI class C compliance
- Manufacturers part no. **Thurlby Thandar CPX400SP**

Technical specification

Output specifications (each output)

Voltage/current/power levels

Voltage range: 0V to 60V
Current range: 0A to 20A
Power range: Up to 420W subject to power envelope

Power envelope

Output setting and control

Voltage setting: By coarse and fine controls
Current setting: By single logarithmic control
Output mode: Constant voltage or constant current with automatic cross-over
Output switch: Electronic, non isolating. Preset voltage and current limit displayed when Output is off. Output rise time no load <10ms
View settings: With the output on, the meters show actual voltage and current. The preset levels can be viewed and adjusted at any time by pressing the view settings button
Status indication: LED indication of output on, V/I limits, CV, CI, power limit, remote, LAN status. Message on meter display for trip condition

S-Lock

Output performance

Ripple and noise: Typically <3mV rms, <15mV pk-pk, (5mV rms max.) in CV mode
Load regulation: Voltage - <0.01% of maximum output for any load change within the PowerFlex envelope (remote sense connected)
Current - <0.05% of maximum output for any load change within the PowerFlex envelope
Line regulation: Voltage - <0.01% of maximum output for a 10% line change
Current - <0.01% of maximum output for a 10% line change
Transient response: <250µs to within 50mV of setting for a 5% to 95% load change
Temperature coefficient: Typically <100ppm/°C

General specifications

Input

AC Input: 110 to 240 volts ±10% 50/60Hz. Installation Category II
Input power: Single - 625VA, dual - 1250VA max

Temperature and environmental

Operating range: +5°C to +40°C, 20% to 80% RH
Storage range: -40°C to +70°C
Environmental: Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling: Rear discharge variable speed fan

Safety and EMC

Safety: Complies with EN61010-1
EMC: Complies with EN61326

Physical

Size: Single - 107 x 130 (1/4 rack 3U) x 398mm
Dual - 210 x 130 mm (1/2 rack 3U) x 377mm
(size excludes feet, knobs and terminals)
Weight: Single - 4.25kg, Dual - 6.3kg

Type	Order code	1+
PowerFlex Max 60V	85-4599	615.06

517083



1200W PowerFlex Max 60V or 50A RS232/
USB/LAN QPX1200SP



The Thurlby Thandar QPX1200SP is a laboratory dc power supply with a maximum total output power of 1200W and is suited to both bench-top and system applications. The Thurlby Thandar QPX1200SP adds full digital remote control using USB, RS-232, LAN and GPIB interfaces and includes an analog remote control.

The QPX1200S is a different type of laboratory power supply designed to meet the need for flexibility in the choice of voltage and current.

A conventional PSU has a fixed current limit giving a power capability that reduces directly with the output voltage. The design of the Thurlby Thandar QPX1200SP enables higher currents to be generated at lower voltages within an overall power limit envelope. Each output can provide three times the current of a conventional PSU of the same maximum voltage and power (see power curve).

To meet a wide variety of needs, the Thurlby Thandar QPX1200SP adds a comprehensive array of digital bus interfaces. RS-232, USB, GPIB and LAN (Ethernet) with LXI support are all provided as standard. Each of the digital bus interfaces provides full control of voltage, current, output on/off and set-up, plus read-back of voltage, current and status. The interfaces are at ground potential and are opto-isolated from the output terminals. The GPIB interface is compliant with IEEE-488.1 and IEEE-488.2. Currently GPIB remains the most widely used interface for system applications.

- PowerFlex design with 1200W maximum power
- Wide range of voltage/current combinations
- Up to 60V and up to 50A within a power envelope
- Linear final regulation provides very low output noise and fast transient response
- Setting by direct numeric entry or by spin wheel
- High setting resolution of 1mV in up to 60V
- Multiple non-volatile setting memories
- Variable OVP and OCP trips
- Low resistance and power calculation
- Analog control interfaces for voltage and current
- Bench or rack mounting with front and rear terminals
- Manufacturers part no. **Thurlby Thandar QPX1200SP**

Technical specification

Voltage/current levels

Voltage range: 0V to 60V
Current range: 0A to 50A
Power range: Up to 1200W
Operating mode: Constant voltage or constant current with automatic cross-over and mode indication

Output setting

Voltage setting: By floating point numeric entry or rotary jog wheel; resolution 1mV
Current setting: By floating point numeric entry or rotary jog wheel; resolution 10mA
Setting accuracy: Voltage - 0.1% ±2mV
Current - 0.3% ±20mA
Up to 10 set-ups can be saved and recalled via the keyboard

Setting stores:

AC Input: 110V to 240V AC ±10%, 50/60Hz. Installation Category II
Input power: 1600VA max

Temperature and environmental

Operating range: +5°C to +40°C, 20% to 80% RH
Storage range: -40°C to +70°C
Environmental: Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling: Intelligent variable-speed fans

Safety and EMC

Safety: Complies with EN61010-1
EMC: Complies with EN61326

Physical

Size: 350(W) x 130(H) x 413(D)mm (3U height)
Weight: 9.2kg
Benchmark operation: Folding legs are incorporated that can be used to angle the front panel upwards when required

Type	Order code	1+
1200W PowerFlex Max	85-4601	997.76

517084



Dual 600W PowerFlex Max 80V or 50A
RS232/USB/LAN QPX600DP



The Thurlby Thandar QPX600DP is a dual output DC power supply with a maximum total output power of 1200 watts and is suited to both bench-top and system applications. To meet a wide variety of needs, the QPX600DP adds a comprehensive array of digital bus interfaces. RS-232, USB, GPIB and LAN (Ethernet) with LXI support are all provided as standard.



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Each of the digital bus interfaces provides full control of voltage, current, output on/off and set-up, plus read-back of voltage, current and status. The interfaces are at ground potential and are opto-isolated from the output terminals. The GPIB interface is compliant with IEEE-488.1 and IEEE-488.2. Currently GPIB remains the most widely used interface for system applications.

An RS-232/RS-423 interface is provided for use with legacy systems. This type of serial interface remains in common use and is perfectly satisfactory for the control of power supplies because data speed is not an issue. USB provides a simple and convenient means of connection to a PC and is particularly appropriate for small system use. A USB driver is provided which supports Windows 2000, XP, Vista and Windows 7.

- Dual independent or tracking 600W outputs
- PowerFlex+ design gives ultra-wide range of voltage/current combinations
- Up to 80V and up to 50A within each power envelope
- Isolated tracking of voltage only, or voltage plus current
- Smart metering and tracking functions facilitate series or parallel wiring for up to 160V or 100A
- Low output noise and ripple
- Bench or rack mounting
- Variable OVP and OCP trips
- Analog control interfaces for voltage and current
- GPIB, RS232, USB and LAN interfaces
- Manufacturers part no. **Thurlby Thandar QPX600DP**

Technical specification		
Voltage/current levels		
Voltage range:	0V to 60V	
Current range:	0A to 50A	
Power range:	Up to 1200W	
Operating mode:	Constant voltage or constant current with automatic cross-over and mode indication	
Output setting		
Voltage setting:	By floating point numeric entry or rotary jog wheel; resolution 1mV	
Current setting:	By floating point numeric entry or rotary jog wheel; resolution 10mA	
Setting accuracy:	Voltage - 0.1% \pm 2mV Current - 0.3% \pm 20mA	
Setting stores:	Up to 10 set-ups can be saved and recalled via the keyboard	
Input		
AC Input:	110V to 240V AC \pm 10%, 50/60Hz. Installation Category II	
Input power:	1600VA max	
Temperature and environmental		
Operating range:	+5°C to +40°C, 20% to 80% RH	
Storage range:	-40°C to +70°C	
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2	
Cooling:	Intelligent variable-speed fans	
Safety and EMC		
Safety:	Complies with EN61010-1	
EMC:	Complies with EN61326	
Physical		
Size:	350(W) x 130(H) x 413(D)mm (3U height)	
Weight:	9.2kg	
Benchtop operation:	Folding legs are incorporated that can be used to angle the front panel upwards when required	
Type	Order code	1+
600W PowerFlex Max	85-4602	1362.24

517085



Single 0-15V/0-5A PL155

Over the years, the PL series has been steadily revised and extended. Hundreds of thousands of PL series units are currently in use across the world and it remains the laboratory power supply of choice for many organisations.

The Thurlby Thandar Single PL155 achieves an exceptional power density for a linear regulated power supply by offering up to 90W from a 1/4 rack 3U sized casing.

This gives it an unusually small bench footprint taking up less space on a crowded bench. For rack-mount application, up to four units can be mounted into a single slot. Despite its small size and linear regulation, the Thurlby Thandar Single PL155 generates relatively little heat through the use of an advanced phase control-regulator.

This gives it significantly higher energy efficiency than conventional linear regulated designs, particularly when supplying lower voltages. The internal heat-sinks use fan-assisted convection cooling in order to remove the heat with minimal fan noise.

- Single output or dual output models
- Linear regulation - for the best performance
- Ultra-compact design - uses up less space
- True Analog controls - for ease of use
- S-Lock function - instantly lock settings
- V-Span function - customise the voltage range
- Low current range and current meter averaging
- DC output switches and view limits button
- Selectable remote sense terminals
- Independent, Isolated Tracking, Ratio Tracking and True Parallel modes on dual output model
- Manufacturers part no. **Thurlby Thandar EB2025T**



Technical specification		
Digital programming performance		
Voltage setting		
Setting resolution:	1mV	
Setting accuracy:	\pm (0.05% +10mV)	
Current setting		
Setting resolution:	0.1mA (0.01mA on 500mA range)	
Setting accuracy:	\pm (0.3% +0.005A) to 3A, \pm (0.5% +0.005A) to 6A, \pm (0.3% +0.5mA) on 500mA range	
Programming speed		
Command delay:	Typically <80ms (this must be added to any of the figures below)	
Voltage up time:	Typically <45ms to 1%	
Voltage down time:	Typically <20ms to 1% (full load); typically <150ms to 1% (no load)	
General specifications		
Input		
AC Input:	230V AC or 115V AC \pm 10%, 50/60Hz. Installation Category II	
Input power:	Single output models - 280VA max.; Dual output models - 560VA max.	
Temperature and environmental		
Operating range:	+5°C to +40°C, 20% to 80% RH	
Storage range:	-40°C to +70°C	
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2	
Cooling:	Intelligent variable-speed low noise fan assists convection.	
Safety and EMC		
Safety:	Complies with EN61010-1	
EMC:	Complies with EN61326	
Physical		
Size:	Single output models - 107mm x 131mm (1/4 rack 3U) x 343mm, Dual output models - 214mm x 131mm (1/2 rack 3U) x 288mm (sizes exclude feet, knobs and terminals).	
Weight:	Single output models - 4.9kg; Dual output models - 8.6kg	
Type	Order code	1+
Single PL155	85-4570	236.91

517133



Single 0-30V/0-3A PL303

To meet the varying needs of today's engineers, a comprehensive array of interfaces is provided. RS-232, USB and LAN (Ethernet) with LXI support are provided as standard. An additional GPIB interface is also optionally available.

Each of the digital bus interfaces provides full control of voltage, current, and output on/off, plus read-back of voltage, current and status. The interfaces are at ground potential and are opto-isolated from the output terminals.

An RS-232/RS-423 interface is provided for use with legacy systems. This type of serial interface remains in common use and is perfectly satisfactory for the control of power supplies because data speed is not an



USB provides a simple and convenient means of connection to a PC and is particularly appropriate for small system use. A USB driver is provided which supports Windows 2000, XP and Vista.

- High performance linear regulated power supplies
- Full digital remote control and read back
- RS-232, USB and LAN (Ethernet), GPIB optional
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Analog remote control of V and I
- Front and rear terminals
- Selectable remote sense terminals
- Ultra-compact size of quarter-rack 3U
- High power density, up to 90W per output
- Manual control features as per New PL Series
- Manufacturers part no. **Thurlby Thandar PL303**

Technical specification		
Digital programming performance		
Voltage setting		
Setting resolution:	1mV	
Setting accuracy:	\pm (0.05% +10mV)	
Current setting		
Setting resolution:	0.1mA (0.01mA on 500mA range)	
Setting accuracy:	\pm (0.3% +0.005A) to 3A, \pm (0.5% +0.005A) to 6A \pm (0.3% +0.5mA) on 500mA range	
Programming speed		
Command delay:	Typically <80ms (this must be added to any of the figures below)	
Voltage up time:	Typically <45ms to 1%	
Voltage down time:	Typically <20ms to 1% (full load); typically <150ms to 1% (no load)	
General specifications		
Input		
AC Input:	230V AC or 115V AC \pm 10%, 50/60Hz. Installation Category II	
Input power:	Single output models - 280VA max.; Dual output models - 560VA max	
Temperature and environmental		
Operating range:	+5°C to +40°C, 20% to 80% RH	
Storage range:	-40°C to +70°C	
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2	
Cooling:	Intelligent variable-speed low noise fan assists convection	
Safety and EMC		
Safety:	Complies with EN61010-1	
EMC:	Complies with EN61326	
Physical		
Size:	Single output models - 107mm x 131mm (1/4 rack 3U) x 343mm, Dual output models - 214mm x 131mm (1/2 rack 3U) x 288mm (sizes exclude feet, knobs and terminals)	
Weight:	Single output models - 4.9kg; Dual output models - 8.6kg	
Type	Order code	1+
Single PL303	85-4571	236.91

517134



Single 0-60V/0-1.5A PL601

The Thurlby Thandar Single PL601 achieves an exceptional power density for a linear regulated power supply by offering up to 90 watts from a 1/4 rack 3U sized casing. This gives it an unusually small bench footprint taking up less space on a crowded bench. For rack-mount application, up to four units can be mounted into a single slot.



Despite its small size and linear regulation, the New PL series generates relatively little heat through the use of an advanced phase controlled pre-regulator. This gives it significantly higher energy efficiency than conventional linear regulated designs, particularly when supplying lower voltages. The internal heat-sinks use fan-assisted convection cooling in order to remove the heat with minimal fan noise.

- High performance linear regulated power supplies
- Full digital remote control and read back
- RS-232, USB and LAN (Ethernet), GPIB optional
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Analog remote control of V and I
- Front and rear terminals
- Selectable remote sense terminals
- Ultra-compact size of quarter-rack 3U
- High power density - up to 90W per output
- Manual control features as per New PL Series
- Manufacturers part no. **Thurlby Thandar PL601**

Technical specification
Digital programming performance

Voltage setting

Setting resolution: 1mV
Setting accuracy: ±(0.05% +10mV)

Current setting

Setting resolution: 0.1mA (0.01mA on 500mA range)
Setting accuracy: ±(0.3% +0.005A) to 3A, ± (0.5% +0.005A) to 6A
±(0.3% +0.5mA) on 500mA range

Programming speed

Command delay: Typically <80ms (this must be added to any of the figures below)
Voltage up time: Typically <45ms to 1%
Voltage down time: Typically <20ms to 1% (full load); typically <150ms to 1% (no load)

General specifications

Input

AC Input: 230V AC or 115V AC ± 10%, 50/60Hz. Installation Category II
Input power: Single output models - 280VA max.; Dual output models - 560VA max

Temperature and environmental

Operating range: +5°C to +40°C, 20% to 80% RH
Storage range: -40°C to +70°C
Environmental: Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling: Intelligent variable-speed low noise fan assists convection

Safety and EMC

Safety: Complies with EN61010-1
EMC: Complies with EN61326

Physical

Size: Single output models - 107mm x 131mm (1/4 rack 3U) x 343mm
Dual output models - 214mm x 131mm (1/2 rack 3U) x 288mm
(sizes exclude feet, knobs and terminals)
Weight: Single output models - 4.9kg
Dual output models - 8.6kg

Type	Order code	1+
Single PL601	85-4572	236.91

51735



Single 0 to120V/0 to 0.75A PLH120

The technology leader Thurlby Thandar is one of the world's major producers of laboratory power supplies (PSUs). Thurlby Thandar has been a major technology innovator in PSUs since 1979 and now offers products ranging from 15W up to 1200W. Hundreds of thousands of Thurlby Thandar power supplies are in everyday use around the world.



The Thurlby Thandar PLH120 is a development of the best-selling New PL series of laboratory bench power supplies which is available in 15V, 30V and 60V variants (covered in a separate brochure and on our web site). The Thurlby Thandar Single PLH120 retains the ultra compact format, high power density, and smart analog controls of the PL series but offers voltages up to 250V to cover applications beyond the capabilities of standard bench PSUs and into areas such as magnetics. The Thurlby Thandar Single PLH120 has been at the forefront of laboratory power supply design for around thirty years during which it has re-defined the state-of-the-art for switch mode products with its innovative Mixed-mode and Power Flex regulator designs.

Demand for linear regulated PSUs has remained strong and continuing development of linear models has generated the lower cost ELR series, and the advanced QL series in addition to the ever popular PL series.

- Linear regulation provides ultra-low noise
- Highly compact (1/4 rack 3U) with small bench footprint

- True analog controls with advanced digital features
- Settings can be locked at the touch of a button
- 4 digit voltage and current meters on each output
- Low current range with 0.1mA resolution
- Constant voltage or constant current operation
- Independent, tracking or true parallel modes (PL303QMD)
- Front and rear power and sense terminals (PL-P models)
- Analog remote control (PL-P single output models)
- RS-232, USB and LAN/LXI interfaces (PL-P models)
- Manufacturers part no. **Thurlby Thandar PLH120**

Technical specification

Voltage/current levels

PLH120: 0 to 120V/0.01mA to 750mA (90W max.)

General specifications

Input

AC Input: 230V AC or 115V AC ±10%, 50/60Hz. Installation Category II
Input power: 280VA max

Temperature and environmental

Operating range: +5°C to +40°C, 20% to 80% RH
Storage range: -40°C to +70°C
Environmental: Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling: Intelligent variable-speed low noise fan assists convection

Safety and EMC

Safety: Complies with EN61010-1
EMC: Complies with EN61326

Physical

Size: PLH models - 107mm x 131mm (1/4 rack 3U) x 288mm
PLH-P models - 107mm x 131mm (1/4 rack 3U) x 315mm
(sizes exclude feet, knobs and terminals)

Weight:

PLH models - 4.9kg
PLH-P models - 5.0kg

Please Note: For full technical specifications please see datasheet

Type	Order code	1+
Single PLH120	85-4573	268.80

51736



PL320QMD plus 4-6V at 0-4A Output PL320QMT

The Thurlby Thandar PL320QMT laboratory bench power supply has established itself in many countries as an industry standard must have.



The T unit incorporates digital meters with a 3.75 digit scale length (4095 counts) to provide greater accuracy and resolution than other PSUs.

Large and bright LEDs give a clear and unambiguous reading. An update rate of 4 per second provides near instantaneous response. Separate meters are used for voltage and current, eliminating the need for meter function switches with their attendant problems of misinterpretation. A damping switch for the current meter simplifies measurements on rapidly varying loads.

Remote sense terminals enable the precision to be maintained at high currents by eliminating the effects of connection lead resistance. Without remote sense lead resistance of just a few tens of milliohms can seriously degrade regulation and produce misleading results. (Two cables of 0.05W each will drop a total of 0.3V at 3A.).

The Thurlby Thandar PL320QMT sets the standard for simple and comprehensive control. Voltages are set with coarse and fine controls for speed with precision. Currents are set with a semi-logarithmic control for increased resolution at low current levels.

The DC output switch enables voltage and current levels to be set before the load is connected. With the output switch off the current limit set point is displayed. With the output switch on the actual output current flowing is displayed.

This invaluable feature allows delicate circuits to be protected by accurately setting the current limit level (down to a few milliamps if necessary) before connecting the circuit under test.

- Simultaneous digital metering of voltage and current
- True constant voltage or constant current operation
- Twin 3.75 digit meters with large LED displays
- 0.1% accuracy; 0.01V and 0.001A resolution
- Excellent stability, resolution and setting accuracy
- DC output switches, automatic mode indication
- Precise control and monitoring of current limit settings
- Remote sense facility for high-current precision
- Current meter damping switch for fluctuating currents
- Parallel, series and tracking modes on QMD and QMT models
- High current logic supply output on QMT models
- Manufacturers part no. **Thurlby Thandar PL320QMT**

Technical specification

Voltage setting:

By coarse and fine controls; resolution <5mV

Current setting:

By single logarithmic control.

Output mode:

Constant voltage or constant current modes with automatic cross-over

Configuration selection:

Isolated, True parallel, Series or Series Tracking via front panel switches. (QMD and QMT only)

Output switch:

Isolates the output. Permits voltage and current limits to be set up before connecting the load

Output terminals:

4mm terminals on 19mm spacing

Output impedance:

Constant Voltage: Typically <5mΩ at 1kHz

Constant current:

Typically 50kΩ

Output protection:

Max. output voltage +20V forward; diode clamped for reverse, up to 3A reverse current

General

Power requirements: 110, 120, 220 or 240VAC 50/60Hz ±10%

Operating range: -5°C to +40°C, 20% to 80% RH

Storage range: -20°C to +60°C

Dimensions:

Single - 170(H) x 155(W) x 265mm(D)

Dual - 170(H) x 350(W) x 265mm(D)

Electrical safety: Designed and manufactured to comply with IEC 348 and IEC1010-1

EMC: Designed and manufactured to comply with EN50081-1 and EN50082-1

Type	Order code	1+
PL320QMT	85-4575	406.40

51737



Quad Mode Dual version of PL330 PL330QMD

The Thurlby Thandar PL330QMD laboratory bench power supply has established itself in many countries as an industry standard range. Large and bright LEDs give a clear and unambiguous reading. An update rate of 4 per second provides near instantaneous response.



The Thurlby Thandar PL330QMD sets the standard for simple and comprehensive control. Voltages are set with coarse and fine controls for speed with precision. Currents are set with a semi-logarithmic control for increased resolution at low current levels.

The DC output switch enables voltage and current levels to be set before the load is connected. With the output switch off the current limit set point is displayed. With the output switch on the actual output current flowing is displayed.

This invaluable feature allows delicate circuits to be protected by accurately setting the current limit level (down to a few milliamps if necessary) before connecting the circuit under test.

- Industry Standard laboratory PSU range
- 15V/4A, 32V/2A or 32V/3A; LED displays
- Wide model range, single, dual or triple outputs
- Separate digital meters for voltage and current
- Twin 3 3/4 digit meters with 12.5mm LEDs
- 0.1% accuracy, 10mV and 1mA resolution
- Parallel, series and tracking modes on duals/triples
- High current 5V logic output on triples
- Manufacturers part no. **Thurlby Thandar PL330QMD**

Technical specification

Main output(s)

Output range	0 to 32V nominal; 0 to 15.5V
Voltage setting	By coarse and fine controls; resolution <5mV
Current setting	By single logarithmic control
Output mode	Constant voltage or constant current modes with automatic cross-over
Configuration selection	Isolated, True parallel, Series or Series Tracking via front panel switches. (QMD and QMT only)
Output switch	Isolates the output. Permits voltage and current limits to be set up before connecting the load
Output terminals	4mm terminals on 19mm spacing
Output impedance	Constant Voltage Typically <5mW at 1kHz Constant Current Typically 50kW
Output protection	Max. output voltage +20V forward; diode clamped for reverse, up to 3A reverse current
Load regulation	<0.01% of max. output for 90% load change
Line regulation	<0.01% of max. output for 10% line change
Remote sense	Eliminates up to 0.5V drop per lead
Ripple and noise	Typically <1mV rms
Transient response	<20µsec to <50mV for 90% load change
Temp. coefficient	Typically <100ppm/°C
Meter type	Dual 4 digit with 12.5mm LEDs, Reading rate 4 per second
Meter resolution	Voltage 10mV over the entire range, Current 1mA over the entire range
Meter accuracy	Voltage ±(0.1% of reading + 1 digit), Current ±(0.3% of reading + 1 digit)
Current meter damping	Nominally 20ms, switchable to 2 sec for averaging of rapidly varying loads
Power requirements:	110, 120, 220 or 240VAC 50/60Hz ±10%
Operating range:	-5°C to +40°C, 20% to 80% RH
Storage range:	-20°C to +60°C
Dimensions:	Single - 170(H) x 155(W) x 265mm(D)

Type	Order code	1+
PL330QMD	85-4576	399.11

517138



Single 420 PowerFlex Max 60V or 20A CPX400S

The Thurlby Thandar CPX400S is a new single output version of the best selling CPX400 series. The ultra-compact design (quarter rack 3U) takes up minimum space for bench or system use. PowerFlex regulation enables the 420W of power to be configured to suit each specific application.



The PowerFlex regulation system used on the Thurlby Thandar CPX400S combines a high frequency pre regulator with a linear post regulator to give both low noise and good transient response. Each output can operate in constant voltage or constant current mode with automatic crossover and mode indication.

Separate voltage and current meters on each output give a resolution of 10mV and 10mA. The fixed resolution avoids the misinterpretation of readings that can occur with auto-ranging 3 or 3 1/2 digit meters where the decimal point position moves as the reading changes. Coarse and fine voltage controls are provided. The current control is logarithmic enabling low current levels to be set accurately. A view settings button enables limit settings to be checked and adjusted at any time.

Each output incorporates remote sense terminals that can be enabled or disabled at the flick of a switch. Remote sensing is essential for maintaining precise regulation at the load and true metering of the load voltage.

- PowerFlex design gives variable voltage and current combinations
- Up to 60V and up to 20A per output (420W maximum)
- Constant voltage or constant current operation

- Low output noise and good transient response
- PowerFlex or fixed-range operation plus custom limits
- True analogue controls with digital settings locking
- Outputs can be wired in series or parallel for 120V or 40A
- Variable OVP trips; safety binding-post terminals
- 4 digit fixed resolution meters; selectable remote sensing
- Compact 1/2 rack 3U case (dual) or 1/4 rack 3U case (single)
- Isolated analogue control interface
- Manufacturers part no. **Thurlby Thandar CPX400S**

Technical specification

Voltage/current/power levels

Voltage range:	0V to 60V
Current range:	0A to 20A
Power range:	Up to 420W subject to power envelope

Output setting and control

Voltage setting:	By coarse and fine controls
Current setting:	By single logarithmic control
Output mode:	Constant voltage or constant current with automatic cross-over
Output switch:	Electronic, non isolating. Preset voltage and current limit displayed when Output is off. Output rise time no load <10ms

View settings: With the output On, the meters show actual voltage and current.
Status indication: LED indication of output on, V/I limits, CV, CI, power limit and remote

General specifications

AC Input:	110 to 240V ±10% 50/60Hz. Installation Category II
Input power:	Single - 625VA

Temperature and environmental

Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Rear discharge variable speed fan

Safety and EMC

Safety:	Complies with EN61010-1
EMC:	Complies with EN61326

Physical

Dimensions:	Single - 107 x 130 (1/4 rack 3U) x 398mm (size excludes feet, knobs and terminals)
Weight:	Single; 4.25kg

Type	Order code	1+
PowerFlex Max	85-4578	478.38

517139

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Single 0-35V/0-5A USB/RS232/GPIB QL355P

The Thurlby Thandar QL355P offers an unparalleled level of precision. Voltage and current are controlled using instrumentation quality 16-bit DACs enabling voltages to be set to 1mV resolution even at full output voltage.

Indeed, the accuracy is sufficient for the QL to be used as a calibration source for some hand-held DMMs. The QL series uses pure linear technology and offers unrivalled performance in terms of regulation, output noise and dynamics. Line and load regulation are close to the limit of measurement. Recovery time from transient current pulses is better than 50µs. Differential output noise is less than 350µV rms in CV mode and down to 20µA rms in CI mode.

Of equal importance for critical applications in areas such as telecoms is common mode noise current (the noise current flowing between the output terminals and ground). This is less than 4µA rms on the QL Series - dramatically better than most other PSUs.

The user interface of the QL series has been painstakingly designed to provide rapid control whilst guarding against any possibility of error. Unlike other digitally controlled units, the QL series provides both numeric and rotary control. Illuminated keys and display legends provide instant confirmation of settings and status.

- Single output or triple output models, LAN, GPIB, RS232 and USB interfaces
- LAN interface conforms with LXI class C
- Compact modular width for bench or rack, front and rear mounted terminals
- 1mV resolution at up to 56V
- Multiple ranges for increased current flexibility
- Multiple non-volatile setting memories
- OVP and OCP trips with alarm output
- Selectable remote sense terminals
- Full control and read-back of all outputs via the bus
- Manufacturers part no. **Thurlby Thandar QL355P**

Technical specification		
Output ranges:	Range 1 to 0 to 35V, 0 to 3A Range 2 to 0 to 15V, 0 to 5A Range 3 to 0 to 35V, 0 to 500.0mA	
Voltage setting:	By floating point numeric entry or rotary jog wheel; resolution 1mV.	
Current setting:	By floating point numeric entry or rotary jog wheel; resolution 1mA or 0.1mA depending on range.	
Setting accuracy:	Voltage to 0.03% ±5mV; Current 0.2% ±5mA/0.5mA	
Output mode:	Operation in constant voltage or constant current modes with automatic cross-over and mode indication by LEDs	
DC Output switch:	Sets output voltage and current levels to zero when Off	
Output terminals:	4mm safety binding post terminals on 19mm spacing Duplicated on rear terminal block (P versions only)	
Load regulation:	For any load change, at the output terminals, using remote sense. Voltage <0.01% + 2mV Current <0.01% + 250µA; <0.01% +50µA on 500mA range	
Line regulation:	Voltage <0.01% + 2mV for 10% line change. Current <0.01% + 250µA; <0.01% + 50µA on 500mA range	
Ripple and noise:	Typically <0.35mV rms CV mode, and <0.2mA rms CI mode (<20µA rms on 500mA range)	
Common mode noise:	<4µA rms at 20MHz bandwidth.	
Transient response:	<20µsec to within 15mV of setting for 90% load change	
Temperature coeff.:	<(50ppm+0.5mV)/°C (voltage), <(100ppm+1mA/0.1mA)/°C (current)	
Remote sense:	Eliminates up to 0.5V drop per lead. Remote sense operation selected from front panel and indicated by LED	
Sense terminals:	Recessed sprung sockets for direct insertion of wires Duplicated on rear terminal block (P versions only)	
Input	230V AC or 115V AC ±10%, 50/60Hz; Installation Category II.	
AC input power:	Single - 250VA max., Triple - 500VA max.	
Temperature and environmental	Operating range: +5°C to +40°C, 20% to 80% RH Storage range: -40°C to +70°C	
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2	
Cooling:	Intelligent variable-speed fan; Over-temperature trip shuts down output if internal temperatures exceed predetermined thresholds	
Safety and EMC	Safety: Complies with EN61010-1 EMC: Complies with EN61326	
Physical	Dimensions: Single - 140 x 160 (1/3 rack, 4U) x 290mm (size excludes feet, knobs and terminals)	
Weight:	Single - 5.5kg	
Type	Order code	1+
Single QL355P	85-4581	476.56

517140

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Single 0-15V/0-5A USB/RS232/LAN(LXI)/Analog PL155-P

The Thurlby Thandar PL155-P offers remote control and read-back using analog, RS232, USB, LAN (LXI) interfaces. They retain all of the capabilities of the New PL Series when under manual control.

When working with any particular piece of equipment, engineers often require a voltage source variable over only a narrow range. Set the voltage too high and damage might occur, set it too low and the circuit may reset.

That's where the V-Span function of the New PL series comes in. It allows the user to redefine the end-stop values of the voltage control to define a specific voltage range.

An engineer is working on a circuit that will eventually operate from four NiMH cells. They use V-Span to set a Vmax of 5.8V (to prevent over-voltage damage) and a Vmin of 3.6V (to ensure that the circuit doesn't reset). They now have a power supply which provides high resolution analog control over the exact voltage range they need.

- High performance linear regulated power supplies
- Full digital remote control and read back
- RS-232, USB and LAN (Ethernet), GPIB optional
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Analog remote control of V and I
- Front and rear terminals
- Selectable remote sense terminals
- Ultra-compact size of quarter-rack 3U
- High power density - up to 90W per output
- Manufacturers part no. **Thurlby Thandar PL155-P**

Technical specification	
Model PL155-P	0 to 15V at 0 to 5A
Digital bus interfaces:	RS-232, USB, LAN (LXI)
RS-232:	Standard 9-pin D connector. Baud rate 19,200 max
USB:	Standard USB hardware connection. Operates as a virtual COM port
Ethernet (LAN):	Standard 10/100 base-T
Conforming to:	IEEE-488.1 and IEEE-488.2
LXI Compliance:	LAN interface is compliant with LXI-C. (LXI is the abbreviation for Lan eXtensions for Instrumentation)
Voltage setting	
Setting resolution:	1mV
Setting accuracy:	± (0.05% +10mV)
Current setting	
Setting resolution:	0.1mA (0.01mA on 500mA range)
General specifications	
Input	
AC Input:	230V AC or 115V AC ±10%, 50/60Hz. Installation Category II
Input Power:	Single output models - 280VA max.; Dual output models - 560VA max
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Intelligent variable-speed low noise fan assists convection
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Dimensions:	Single output models - 107mm x 131mm (1/4 rack 3U) x 343mm (sizes exclude feet, knobs and terminals)
Weight:	Single output models - 4.9kg

517141



Single 0-30V/0-3A USB/RS232/LAN(LXI)/Analog PL303-P

The Thurlby Thandar PL303-P offers remote control and read-back using analog, RS232, USB, LAN (LXI) interfaces. They retain all of the capabilities of the New PL Series when under manual control.

When working with any particular piece of equipment, engineers often require a voltage source variable over only a narrow range. Set the voltage too high and damage might occur, set it too low and the circuit may reset.

That's where the V-Span function of the Thurlby Thandar PL303-P comes in. It allows the user to redefine the end-stop values of the voltage control to define a specific voltage range.

An engineer is working on a circuit that will eventually operate from four NiMH cells. They use V-Span to set a Vmax of 5.8V (to prevent over-voltage damage) and a Vmin of 3.6V (to ensure that the circuit doesn't reset). They now have a power supply which provides high resolution analog control over the exact voltage range they need.

- High performance linear regulated power supplies
- Full digital remote control and read back



- RS-232, USB and LAN (Ethernet), GPIB optional
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Analog remote control of V and I
- Front and rear terminals
- Selectable remote sense terminals
- Ultra-compact size of quarter-rack 3U
- High power density - up to 90W per output
- Manufacturers part no. **Thurlby Thandar PL303-P**

Technical specification	
Model PL303-P	0V to 15V at 0 to 5A
Digital bus interfaces:	RS-232, USB, LAN (LXI)
RS-232:	Standard 9-pin D connector, Baud rate 19,200 max.
USB:	Standard USB hardware connection. Operates as a virtual COM port
Ethernet (LAN):	Standard 10/100 base-T
Conforming to:	IEEE-488.1 and IEEE-488.2
LXI Compliance:	LAN interface is compliant with LXI-C. (LXI is the abbreviation for Lan eXtensions for Instrumentation)
Voltage setting	
Setting resolution:	1mV
Setting accuracy:	± (0.05% +10mV)
Current setting	
Setting resolution:	0.1mA (0.01mA on 500mA range)
General specifications	
Input	
AC Input:	230V AC or 115V AC ±10%, 50/60Hz. Installation Category II
Input Power:	Single output models - 280VA max.; Dual output models - 560VA max
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Intelligent variable-speed low noise fan assists convection
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Dimensions:	Single output models - 107mm x 131mm (1/4 rack 3U) x 343mm (sizes exclude feet, knobs and terminals)
Weight:	Single output models - 4.9kg

type	Order code	1+
Single GPIB PL303-P	85-4585	372.68
Single GPIB PL303-P	85-4591	418.24

517142



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Single 0-60V/0-1.5A USB/RS232/LAN (LXI)/ Analog PL601-P

The Thurlby Thandar PL601-P achieves an exceptional power density for a linear regulated power supply by offering up to 90W from a 1/4 rack 3U sized casing. This gives it an unusually small bench footprint taking up less space on a crowded bench. For rack-mount application, up to four units can be mounted into a single slot.

Despite its small size and linear regulation, the Thurlby Thandar PL601-P generates relatively little heat through the use of an advanced phase controlled pre-regulator. This gives it significantly higher energy efficiency than conventional linear regulated designs, particularly when supplying lower voltages.

The internal heat-sinks use fan-assisted convection cooling in order to remove the heat with minimal fan noise.

To meet the varying needs of todays engineers, the Thurlby Thandar PL601-P has a comprehensive array of interfaces is provided. RS-232, USB and LAN (Ethernet) with LXI support are provided as standard. An additional GPIB interface is also optionally available.

Each of the digital bus interfaces provides full control of voltage, current, and output on/off, plus read-back of voltage, current and status. The interfaces are at ground potential and are opto-isolated from the output terminals.

- High performance linear regulated power supplies
- Full digital remote control and readback
- RS-232, USB and LAN (Ethernet), GPIB optional
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Analog remote control of V and I
- Front and rear terminals
- Selectable remote sense terminals
- Ultra-compact size of quarter-rack 3U
- High power density - up to 90W per output
- Manual control features as per New PL Series
- Manufacturers part no. **Thurlby Thandar PL601-P**



Technical specification	
Model PL601-P	0V to 15V at 0 to 5A
Digital bus interfaces:	RS-232, USB, LAN (LXI)
RS-232:	Standard 9-pin D connector. Baud rate 19,200 max.
USB:	Standard USB hardware connection. Operates as a virtual COM port
Ethernet (LAN):	Standard 10/100 base-T
Conforming to:	IEEE-488.1 and IEEE-488.2
LXI Compliance:	LAN interface is compliant with LXI-C. (LXI is the abbreviation for Lan eXtensions for Instrumentation)
Voltage setting	
Setting resolution:	1mV
Setting accuracy:	± (0.05% +10mV)
Current setting	
Setting resolution:	0.1mA (0.01mA on 500mA range)
General specifications	
Input	
AC Input:	230V AC or 115V AC ±10%, 50/60Hz. Installation Category II
Input Power:	Single output models - 280VA max.; Dual output models - 560VA max
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Intelligent variable-speed low noise fan assists convection
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Dimensions:	Single output models - 107mm x 131mm (1/4 rack 3U) x 343mm (sizes exclude feet, knobs and terminals)
Weight:	Single output models - 4 to 9kg

type	Order code	1+
Single PL601-P	85-4586	372.68
Single GPIB PL601-P	85-4592	418.24

517143



Dual 0-30V/0-3A USB/RS232/LAN(LXI) PL303QMD-P

1/4 rack 3U sized casing. This gives it an unusually small bench footprint taking up less space on a crowded bench. For rack-mount application, up to four units can be mounted into a single slot. Despite its small size and linear regulation, the Thurlby Thandar PL601-P generates relatively little heat through the use of an advanced phase controlled pre-regulator. This gives it significantly higher energy efficiency than conventional linear regulated designs, particularly when supplying lower voltages.

The internal heat-sinks use fan-assisted convection cooling in order to remove the heat with minimal fan noise.

To meet the varying needs of todays engineers, the Thurlby Thandar PL303QMD-P has a comprehensive array of interfaces is provided. RS-232, USB and LAN (Ethernet) with LXI support are provided as standard. An additional GPIB interface is also optionally available.

Each of the digital bus interfaces provides full control of voltage, current, and output on/off, plus read-back of voltage, current and status. The interfaces are at ground potential and are opto-isolated from the output terminals.

- High performance linear regulated power supplies
- Full digital remote control and readback
- RS-232, USB and LAN (Ethernet), GPIB optional
- LAN Interface conforms with LXI standard
- Interfaces are opto-isolated from outputs
- IVI Driver supplied
- Analog remote control of V and I
- Front and rear terminals
- Selectable remote sense terminals
- Ultra-compact size of quarter-rack 3U
- High power density - up to 90W per output
- Manual control features as per New PL Series
- Manufacturers part no. **Thurlby Thandar PL303QMD-P**



Technical specification	
Model PL155-P	0 to 15V at 0 to 5A
Digital bus interfaces:	RS-232, USB, LAN (LXI)
RS-232:	Standard 9-pin D connector. Baud rate 19,200 max.
USB:	Standard USB hardware connection. Operates as a virtual COM port
Ethernet (LAN):	Standard 10/100 base-T
Conforming to:	IEEE-488.1 and IEEE-488.2
LXI Compliance:	LAN interface is compliant with LXI-C. (LXI is the abbreviation for Lan eXtensions for Instrumentation)
Voltage setting	
Setting resolution:	1mV
Setting accuracy:	± (0.05% +10mV)
Current setting	
Setting resolution:	0.1mA (0.01mA on 500mA range)
General specifications	
Input	
AC Input:	230V AC or 115V AC ±10%, 50/60Hz. Installation Category II
Input Power:	Single output models - 280VA max.; Dual output models - 560VA max
Temperature and environmental	
Operating range:	+5°C to +40°C, 20% to 80% RH
Storage range:	-40°C to +70°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2
Cooling:	Intelligent variable-speed low noise fan assists convection.
Safety and EMC	
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Physical	
Dimensions:	Single output models - 107mm x 131mm (1/4 rack 3U) x 343mm (sizes exclude feet, knobs and terminals).
Weight:	Single output models - 4.9kg

type	Order code	1+
Dual PL303QMD-P	85-4587	606.86
Dual GPIB PL303QMD-P	85-4593	652.42

517144



Single 0-32V/0-3A RS232/GPIB PL330P

The Thurlby Thandar PL-P series offers a high performance fully programmable power supply system at low cost. Based around the 32V-3A versions of the standard PL series, the PL-P models include single, dual and triple output units suitable for bench or rack mounting. When not connected to the bus, these PSUs can be operated exactly as a standard PL series PSU.



Each PL-P series supply is fitted with both a GPIB (IEEE-488) interface and an ARC (addressable RS232) interface as standard. Both interfaces provide full bus control of voltage and current settings along with full read back of actual current and voltage levels. The GPIB interface conforms fully with IEEE-488.2 as well as IEEE-488.1. The ARC interface can be used as a conventional RS-232 interface or as part of a multi-instrument ARC system.

- Specifications as per PL bench series
- RS-232 and GPIB interfaces as standard
- GPIB interface conforms to IEEE-488.2
- Settable voltage and current levels
- 10mV and 1mA programmable resolution
- Read back of voltage and current via the bus
- Manufacturers part no. **Thurlby Thandar PL330P**

Technical specification

Main output(s):	
Output range:	0 to 32V at 0 to 3.1A
Voltage setting:	12-bit resolution (10mV steps)
Current setting:	12-bit resolution (1mA steps)
Setting accuracy:	Voltage: $\pm(0.1\% + 10mV)$ Current: $\pm(0.2\% + 2mA)$
Output mode:	Constant voltage or constant current modes with automatic cross-over
Output switch:	Electronic by interface command (front panel output switches must be set to ON)
Readback resolution:	Voltage: 10mV over the entire range Current: 1mA over the entire range
Readback accuracy:	Voltage: $\pm(0.1\%$ of reading + 1 digit) Current: $\pm(0.3\%$ of reading + 1 digit)
Current meter	
Damping:	Nominally 20ms switchable to 2 sec and back by remote commands
Output terminals:	4mm terminals on 19mm spacing
Output impedance:	Constant voltage: typically $<5m\Omega$ at 1kHz Constant current: typically 50k Ω
Output protection:	Max. output voltage +20V forward; diode clamped for reverse, up to 3A reverse current $<0.01\%$ of max. output for 90% load change
Load regulation:	$<0.01\%$ of max. output for 10% line change
Line regulation:	$<0.01\%$ of max. output for 10% line change
Remote sense:	Eliminates up to 0.5V drop per lead
Ripple and noise:	Typically $<1mV$ rms
Transient response:	$<20\mu sec$ to $<50mV$ for 90% load change
Temp. coefficient:	Typically $<100ppm/^{\circ}C$
Meter type:	Dual 4 digit with 12.5mm LEDs

Type	Order code	1+
Single PL330P	85-4596	481.11
Dual PL330P	85-4597	810.06

517145



Twin 420W PowerFlex Max 60V or 20A USB/RS232/LAN CPX400DP

The Thurlby Thandar Twin CPX400DP is a different type of laboratory power supply designed to meet the need for flexibility in the choice of voltage and current. A conventional PSU has a fixed current limit giving a power capability that reduces directly with the output voltage. The Thurlby Thandar Twin CPX400DP design enables higher currents to be generated at lower voltages within an overall power limit envelope.



Each output can provide considerably higher current than a conventional PSU of the same maximum voltage and power (see power curve). Example voltage and current combinations include 60V/7A, 42V/10A, 28V/15A, and 20V/20A.

The PowerFlex regulation system used on the Thurlby Thandar Twin CPX400DP combines a high frequency pre regulator with a linear post regulator to give both low noise and good transient response. Each output can operate in constant voltage or constant current mode with automatic crossover and mode indication.

Separate voltage and current meters on each output give a resolution of 10mV and 10mA. The fixed resolution avoids the misinterpretation of readings that can occur with auto ranging 3 or 3 1/2 digit meters where the decimal point position moves as the reading changes. Coarse and fine voltage controls are provided. The current control is logarithmic enabling low current levels to be set accurately. A View Settings button enables limit settings to be checked and adjusted at any time.

Each output incorporates remote sense terminals that can be enabled or disabled at the flick of a switch. Remote sensing is essential for maintaining precise regulation at the load and true metering of the load voltage.

- PowerFlex design gives variable voltage and current combinations within a maximum power envelope
- Up to 60V and up to 20A per output (420W maximum)
- Constant voltage or constant current operation
- Low output noise and good transient response
- PowerFlex or fixed-range operation plus custom limits
- True analogue controls with digital settings locking
- Independent outputs or isolated voltage tracking (dual)
- Outputs can be wired in series or parallel for 120V or 40A
- Variable OVP trips; safety binding-post terminals
- 4 digit fixed resolution meters; selectable remote sensing
- Compact 1/2 rack 3U case (dual) or 1/4 rack 3U case (single)
- Duplicate terminals at rear
- GPIB, RS-232, USB and LAN interfaces with LXI class C compliance
- Manufacturers part no. **Thurlby Thandar CPX400DP**

Technical specification

Output specifications (each output)

Voltage/current/power levels

Voltage range:	0V to 60V
Current range:	0A to 20A
Power range:	Up to 420W per output subject to power envelope

Output setting and control

Voltage setting:	By coarse and fine controls
Current setting:	By single logarithmic control
Output mode:	Constant voltage or constant current with automatic cross-over

CC indicator for constant current mode
Electronic, non isolating. Preset voltage and current limit displayed when Output is off

Output switch: Output rise time no load $<10ms$

View settings: With the output On, the meters show actual voltage and current. The preset levels can be viewed and adjusted at any time by pressing the View Settings button
LED indication of Output On, V/I Limits, CV, CL, Power Limit, Remote, LAN status.

Status indication: Message on meter display for trip condition

Output performance

Ripple and noise:	Typically $<3mV$ rms, $<15mV$ pk-pk, in CV mode
Load regulation:	Voltage - $<0.01\%$ of maximum output for any load change within the PowerFlex envelope Current - $<0.05\%$ of maximum output for any load change within the PowerFlex envelope

Line regulation: Voltage - $<0.01\%$ of maximum output for a 10% line change

Current - $<0.01\%$ of maximum output for a 10% line change
Transient response: $<250\mu s$ to within 50mV of setting for a 5% to 95% load change

Temp. coefficient: Typically $<100ppm/^{\circ}C$

Output protection

Output protection:	Forward protection by Over-voltage Protection (OVP) trip Reverse protection by diode clamp for currents to 3A
OVP Setting/range:	Via screwdriver adjustable preset on front panel. Range 1V to 66V

Output trips off for over-temperature
Safety interlocks: Operations that could cause an unexpected change in voltage or current settings are interlocked with the output switch

Output connections

Power terminals:	Universal 4mm safety binding posts on 19mm spacing at front Screw terminals at rear (CPX400DP: SA and DP only)
------------------	---

Remote sense

Sense selection:	Voltage sensing is selected as Local or Remote by front panel switch
Sense terminals:	Spring loaded screw-less terminals at front. Screw terminals at rear

General specifications

Input

AC Input:	110 to 240V $\pm 10\%$ 50/60Hz
Installation Category II	1250VA max

Input power:

Temperature and environmental

Operating range:	+5 $^{\circ}C$ to +40 $^{\circ}C$, 20% to 80% RH
Storage range:	-40 $^{\circ}C$ to +70 $^{\circ}C$
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 2.
Cooling:	Rear discharge variable speed fan

Safety and EMC

Safety:	Complies with EN61010-1
EMC:	Complies with EN61326

Physical

Dimensions:	Dual - 210 x 130 mm (1/2 rack 3U) x 377mm (size excludes feet, knobs and terminals)
Weight:	Dual - 6.3kg

Type	Order code	1+
Twin CPX400DP	85-4598	906.64

517146



Wideband amplifier WA301

The WA301 is a DC to 1MHz amplifier with a maximum output (e.m.f.) of 30V peak to peak from a 50W source impedance. A 600W output is also provided.

The unit can provide up to 15V peak to peak into a 50W load and can drive up to 300mA peak into a low impedance or short circuit. Fully variable gain between x1 and x10 is provided by a rotary vernier with calibrated end stops. A -20dB output attenuator is also incorporated.

An output clip LED is provided to warn if the output amplitude exceeds $\pm 15V$.

- 30V peak-peak maximum output
- DC to 1MHz bandwidth
- Variable gain 0dB to +20dB
- 50W and 600W outputs
- -20dB output attenuator
- Fully protected output with high current drive

Technical specification

Bandwidth:	-3dB at 1MHz
Flatness:	-1dB at 400kHz
Rise/fall time:	
Distortion:	
Gain:	Vernier adjustment between x1 and x10
Input impedance:	10k Ω
Output impedance:	50W and 600W (separate sockets)
Output 0dB:	30V peak to peak max. from 50W (1.5V into 50 Ω) 30V peak to peak max. from 600W (1.5V into 600 Ω)
Output -20dB:	3V peak to peak max. from 50W (1.5V into 50 Ω) 3V peak to peak max. from 600W (1.5V into 600 Ω)

DC offset:

Power:	230V or 115V AC nominal 50/60Hz, adjustable internally; operating range $\pm 14\%$ of nominal; 20VA max.; Installation category II
Dimensions:	210(W) x 75(H) x 230(D)mm including feet

Weight:	1.1kg
Operating Range:	+5 $^{\circ}C$ to +40 $^{\circ}C$, 20-80% RH
Storage Range:	-40 $^{\circ}C$ to +70 $^{\circ}C$
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326

Type	Order code	1+	3+
TTI Wideband Amplifier WA301	85-2067	155.00	150.00

400522



LD300 DC Electronic load DC300W 80A 80V

The LD300, new from TTI, is a DC electronic load with maximum input levels of 80A and 80V. It is intended for use in investigating the behaviour of many different types of DC power sources such as batteries, solar cells, fuel cells or wind generators, as well as electronic power supply units.



It has a maximum power dissipation of 300W, and is designed to have very low internal resistance to allow operation at high currents with low voltage drop. Operation down to 500mV is possible at currents up to 10A rising to 1V at 40A and less than 2V at 80A.

The LD300 provides five different operating modes: constant current, constant voltage, constant power, constant resistance and constant conductance. The value of the chosen constant parameter is set by 10-turn controls on the front panel. Alternatively an external control voltage can also be used to set the level of the load. Any desired waveform can be applied allowing complex load conditions to be simulated.

An internal transient generator can repeatedly switch the load between two different operating levels set on separate 10-turn controls. The frequency and duty cycle of the transients can be set over a wide range. The transients can also be initiated by an external logic signal. The transitions between the levels have a true linear slewing characteristic in all modes; the slew-rate is adjustable over a wide range.

A low voltage dropout facility is provided to protect sources such as batteries from damaging levels of discharge by reducing the load current when the source voltage falls below the dropout threshold.

Load conditions are displayed using high accuracy four digit meters. The voltage of the source can be sensed either internally for convenience or externally for better accuracy. A current monitor output provides a voltage proportional to the current flowing allowing the behaviour of a source to be viewed on an oscilloscope or external meter.

The LD300 is fully protected against excessive current, power dissipation or internal temperature, and minimises audible noise by automatically controlling the fan speed according to the power dissipation.

The unit is housed in a compact case measuring 130 x 212 x 435 mm (half rack width, 3U height) with a weight of 6kg.

- Versatile solution for testing dc power sources
- Constant current, resistance, conductance, voltage and power modes
- Wide voltage and current range, 0 to 80V and 0 to 80A
- 300W continuous dissipation at 40°C
- Low minimum operating voltage of
- Ten turn controls for level setting
- Built-in transient generator with variable slew
- Current monitor output for waveform viewing
- Variable drop-out voltage for battery testing
- Analogue remote control capability

Technical specification

Constant current mode

Setting range: 0 to 80A in 2 ranges, set by 10 turn control.
Meter resolution: 1mA on 8A range, 10mA on 80A range.
Setting accuracy: $\pm (0.2\% + 20\text{mA})$.
Regulation: 30mA for a 20W to 280W power change.
Slew rate range: 8mA/ms to 2500A/ms

Constant resistance mode

Setting range: 0.0457 to 10057 in 2 ranges, set by 10 turn control.
Meter resolution: 10m Ω on 1057 range, 100m Ω on 40057 range.
Setting accuracy: $\pm (0.5\% + 2 \text{ digits})$.
Regulation: 2% for a 20W to 280W power change.
Slew rate range: 3.357/s to 400057/ms

Constant conductance mode

Setting range: 0.001A/V to 40A/V in 2 ranges, set by 10 turn control.
Meter resolution: 0.001A/V or 0.01A/V depending on range.
Setting accuracy: $\pm (0.5\% + 2 \text{ digits})$.
Regulation: 2% for a 20W to 280W power change.
Slew rate range: 33mA/V/s to >400A/V/ms

Constant voltage mode

Setting range: Vmin to 80V in 2 ranges, set by 10 turn control.
Meter resolution: 1mV on 8V range, 10mV on 80V range.
Setting accuracy: $\pm (0.2\% + 2 \text{ digits})$.
Regulation: 30mV for a 20W to 280W power change.
Slew rate range: 2.5V/s to >800V/ms

Constant power mode

Setting range: 0 to 320W, set by 10 turn control.
Meter resolution: 1W.
Setting accuracy: $\pm (0.5\% + 2 \text{ W})$.
Regulation: 2% for a 20W to 280W power change.
Slew rate range: 0.1W/ms to 3,200W/ms

Type	Order code	1+
LD300 DC Electronic Load DC300	85-1323	629.00

400521



A Rohde & Schwarz Company

HM8040-3 Triple Power Supply Unit

The HM8040-2 Triple Power Supply is a compact modular unit developed to supply power to laboratory test systems and is also used in technical schools and educational institutions. The HM8040-2 is a conventionally designed, linear series regulator configuration that assures dependable, low-noise power output. Three floating output voltages supply a maximum capacity of 25W.



Two continuously variable outputs of 0 to 20V are combined with a 5.0V output that is adjustable $\pm 0.5\text{V}$. This is an excellent feature when working with digital logic circuitry. Current limiting for both 20V ranges is continuously adjustable. The transition from voltage control to current control is automatic and clearly indicated. Each 3-digit display is switchable to display either voltage or current. All outputs can be switched ON / OFF simultaneously via a single push button switch, which permits voltage value set-up while the output is switched off. Series or parallel configuration is possible between all of the three floating outputs.

Excellent line and load regulation is provided in addition to low residual ripple and noise. There is suitable protective circuitry for all of the power outputs. The HM8040-3 uses linear regulators and delivers three independent voltages with a total power output of approx. 25W. HM8040-3 offers low ripple, good regulation, a very good quality and an optimum price and performance ratio. Due to maximum power limitations, only one HM8040-2 at a time can be used in an HM8001-2 Mainframe. (Order code **85-4417**). HAMEG Instruments are well known for oscilloscopes and test equipment for more than 50 years.

- 2 x 0V to 20V/0.5A 1x 5V/1A
- 3-Digit switchable displays (display resolution 0.1 V/1mA)
- Pushbutton for activating/deactivating all outputs
- Adjustable current limiting and electronic fuse
- Low residual ripple and low noise

Technical specification

Safety class: Safety class I (EN61010-1)
Power supply: 1 x 8 V/1 A
(from mainframe): 2 x 24 V/530 mA
Operating temperature: +5°C to +40°C
Storage temperature: -20°C to +70°C
Rel. humidity: 55 to 80% (non condensing)
Dimensions: 135(W) x 68(H) x 228(D)mm
Weight: approx. 1.07kg

For full technical specification and recommended accessories, see datasheet

Type	Order code	1+
Triple PSU	85-4422	230.00

501751



Multi channel DC PSUs

These DC PSUs are available with three or four independent isolated outputs.

- Constant voltage and constant current modes
- Tracking operation and auto series/parallel operation
- 0.01% load and line regulation
- Low ripple and noise
- Output ON/OFF switch
- Four 0.5in three-digit LED displays
- Output voltage and current setting when output disabled
- Fan speed control circuit minimises fan noise
- Overload and reverse polarity protection
- Supplied with Instruction manual, power lead and test leads
- **GW Instek GPS series**



Technical specification

Mfrs. pt. no. **GPS-3303S** **GPS-4303S**
Order code **85-1825** **85-1826**

Output mode

Voltage: Channel 1 0-30V 0-30V
Channel 2 0-30V 0-30V
Channel 3 5V 2.2-5.2V
Channel 4 - 8-15V
Current: Channel 1 3A 3A
Channel 2 3A 3A
Channel 3 3A 1A
Channel 4 - 1A

Max. power 195W 200W
Tracking series voltage 0-60V 0-60V
Tracking parallel current 0-6A 0-6A

AC Input 100/120/220/230V AC 50/60Hz

For detailed technical specifications please see data sheet available at www.rapidonline.com or contact Rapid Electronics

Type	Order code	1+	3+
3-channel PSU	85-1825	245.55	224.91
4-channel PSU	85-1826	288.00	

74715



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Programmable DC regulated power supply

ATR-2485 Adaptor RS-232 to RS-485 for power supply SPS-9602.

- Built-in RS-485/RS232 interface enabling the control and data logging of up to 31 power supplies of different models of this series (requires an RS-232 to RS-485 adaptor available separately)



Technical specification			
Order code	85-1751	85-1753	
Input voltage	230V AC 50Hz	230V AC 50Hz	
Power consumption	220VA/W	220VA/W	
Output voltage	0 - 18V DC	0 - 60V DC	
Output current	0 - 5A	0 - 1.5A	
Output rated power	90W	90W	
Ripple and noise	3mV rms	3mV rms	
Load regulation (voltage)	5mV	4mV	
Line regulation (voltage)	3mV	3mV	
Load regulation (current)	5mA	4mA	
Line regulation (current)	2mA	2mA	
Display meter accuracy	±0.1% +2 digit		
Operating temperature	+5°C to +40°C		
Cooling	Natural convection via cooling fins on rear of unit		
Dimensions	205(W) x 115(H) x 275(D)mm		
Weight	5kg approx		
Remote programming specifications:	Windows 98/98SE/ME/2000/XP		
Operating system requirements:	USB 1.0 (single power supply) or RS-485 (up to 31 power supplies)		
Communication interface	Full control of power supply functions and data read-back		
Remote programming functionality	Yes - with supplied software		
Data logging	9600bps		
Baud rate	9600bps		

Type	Order code	1+	3+
RS232/RS485 Adaptor	85-1754	43.43	38.98

73460



15V DC High current DC regulated SMPS

A power supply that provides high current outputs from a lightweight and compact case size. In addition to a 3 to 15V output there is also a fixed output of 13.8V making the unit ideal for the demonstration, testing and maintenance of in-car entertainment equipment.

- Output voltage adjustable from 3 to 15V DC
- Additional fixed voltage output of 13.8V
- Excellent power factor correction reduces power loss and cuts noise and EMI
- Overload, short circuit and overtemperature protection
- High RFI stability
- Separate VU type voltmeter and ammeter
- Cooled by low noise variable speed thermally controlled fan
- CE, EN-55022, EN 60950 approval



Technical specification		
Input voltage		230V AC 50Hz
Output voltage	Variable	3 to 15V DC
	Fixed	13.8V DC
Output current		25A
Ripple and noise		5mV p-p
Load regulation		200mV
Line regulation		50mV
Efficiency		>78%
Power factor correction		>0.95
Meter accuracy		7% fsd
Operating temperature		0°C to +40°C
Dimensions W x H x D (mm)		220 x 110 x 220
Weight (kg)		2.7

Type	Order code	1+
15V 25A SMPS	85-1833	93.39

75296



25A/40A Switch mode power supplies

A range of high power switch mode power supplies housed in a lightweight and compact enclosure with digital LED displays for voltage and current readings. Output is adjustable from 3V to 15V with the ability to fix the output at 13.8V via a slide switch on base of unit. Models are available with either 25A or 40A outputs.

- The PSUs are fully protected with overload, over temperature, over voltage (set at 16.5V) and short circuit protection as standard
- A thermally controlled, variable speed fan ensures quiet and cool operation
- CE approved to EN60950, EN55022, EN61588 (25A version) and EN5011 (40A version)



Technical specification	25A	40A
Variable output voltage	3V to 15V DC	3V to 15V DC
Fixed voltage mode	13.5V DC	13.5V DC
Ripple and noise	50mV	50mV
Load regulation	200mV	200mV
Line regulation	50mV	50mV
Efficiency	>78%	>78%
Power factor correction	>0.95 at optimal load	>0.95 at optimal load
V meter range	3 x LED	3 x LED
A meter range	3 x LED	3 x LED
Dimensions	220 x 110 x 220mm	220 x 110 x 300mm
Weight	2.7kg	3.5kg

Type	Order code	1+
25A SMPS Digital display	85-1824	86.61
40A SMPS Digital display	85-1828	90.30

65063



30V/30A Variable output power supply

This high power (900W) switch-mode DC regulated power supply features a 1-30V variable output, and is designed with a highly efficient active power factor corrector. The constant current limiting protection allows the output current to remain stable, but the output voltage decreases to a safe operating level. Remote sensing is included to compensate for output line losses, plus the output voltage level can be externally controlled via a remote terminal.

- Includes front terminal with 3A limiting
- Main o/p, remote sensing, remote control terminals are mounted on the back of unit
- Adjustable o/p 1-30V DC
- Lightweight and small footprint - 220 x 110 x 360mm, 5.8kg
- Overload, over-temperature, short circuit protection
- Constant current mode with LED indicator
- Variable speed thermally controlled fan
- Large LED readouts



Technical specification	
Variable output voltage	1V to 30V DC
Total rated output current	30A (front + back terminals)
Front output max	3A
Load regulation	0.1% +5mV
Line regulation	0.05% +3mV
Ripple and noise	40mV pk-pk
Efficiency	>85%
Power factor correction	>0.97
LED readouts	3-digit display for voltage and current
Meter accuracy	1% + 1 count

Type	Order code	1+
30V/30A PSU	85-1832	154.01

68072



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Switch Mode Power Supplies

PowerPax UK

12W - 25W DC Miniature desktop switch mode PSU

This range of desktop switch mode PSUs made to high standard offer a regulated single fixed output voltage. The input voltage is via a **IEC320-C8** inlet, (cable not supplied) order code **23-7497**.

- Input of 100-240V; AC 50-60Hz; 1.5A
- 25W max.
- 5V, 9V, 12V, 15V and 24V DC versions available
- 2.1 x 5.5 x 12mm female barrel
- +ve centre polarity
- Low ripple and noise
- EMI: Meets **FCC class B**
- Short circuit and over voltage protection
- 7 versions available
- The input voltage is via a **IEC320-C8** inlet, (cable not supplied) order code **23-7497**.
- **CE, UL, cUL, TUV, CB** and **BSMI** approved



Technical specification		68.2 (H) x 49.8 (W) x 26.3mm (D)
Dimensions		240V; 50Hz
Input voltage		IEC320-C8 (2P)
Cable inlet		2.1 x 5.5 x 12mm
Output barrel		
Output	85-2940	5V DC 2.5A
	85-2941	9V DC 1.6A
	85-2943	12V DC 1.25A
	85-2944	12V DC 2A
	85-2945	15V DC 1A
	85-2946	24V DC 0.65A
Voltage protection	Short circuit and over voltage	
Operating temperature	0°C to +40°C	
Storage temperature	-40°C to +85°C	
Weight	109g approx.	
Approved	CE, UL, cUL, TUV, CB and BSMI approved	

Type	Order code	1+	10+	25+	100+
5V DC 2.5A	85-2940	9.19	7.36	6.73	6.13
9V DC 1.5A	85-2941	9.19	7.36	6.73	6.13
12V DC 1.2A	85-2943	9.19	7.36	6.73	6.13
12V DC 2A	85-2944	14.21	11.36	10.41	9.47
15V DC 1A	85-2945	9.97	8.13	7.57	6.90
24V DC 0.55A	85-2946	9.19	7.36	6.73	6.13

71064

STONTRONICS

12-25W Mini desktop switch mode PSU

A range of high quality switch mode PSUs that have 2-pin IEC input connectors.

- Wide range input voltage 90 to 255V AC at 47 to 63Hz
- Short circuit, over voltage and over current protection
- Minimum 60% efficiency
- Fully regulated output
- Connector, 2.1 x 5.5 x 12mm female barrel
- Dimensions 75 x 47.5 x 26.5mm
- **IEC, TUV, UL** approved



Voltage	Current	Order code	1+	10+	25+
5V DC	2.5A	85-3940	9.91	8.08	7.74
9V DC	1.5A	85-3941	9.91	8.08	7.74
24V DC	0.55A	85-3946	11.98	9.80	9.35

74995

STONTRONICS

12W Switch mode power supply

A very compact desktop 12W SMPS.

- Output 12V 1A
- Compact case measures just 74 x 46 x 25.5mm
- Output via fixed 1.8m lead with standard 2.1mm plug



Requires a 'figure-of-8' mains lead and plug see **Connectors - mains power** section.

Type	Rating	Order code	1+	5+	10+
12W SMPS	12V 1A	85-1864	11.00	9.00	7.00

77532

STONTRONICS

12W Switchmode PSU's

A high quality range of wall mountable switch mode power supplies complete with UK mains plug.

- Universal AC input
- Fixed output voltage
- 2.1mm C+ VE Anti DC connector
- RoHS Compliant
- High reliability
- **CE, UL, CSA, TUV** approved



Technical specification	Output volts	Current	Stock	Order code
5VDC	2.5A	T3514EG		85-3570
9VDC	1.33A	T3515EG		85-3571
12VDC	1A	T3712ST		85-3572
15VDC	0.8A	T3516EG		85-3573
24VDC	0.5A	T3518EG		85-3575

Type	Order code	1+	10+	25+
5V 12w	85-3750	9.30	8.30	7.24
9V 12w	85-3751	9.30	8.30	7.24
12V 12w	85-3752	8.77	7.83	6.83
15V 12w	85-3753	9.30	8.30	7.24
24V 12w	85-3755	9.30	8.30	7.24

123407

STONTRONICS

30W International switch mode

A high quality range of 30W plug-in switch mode power supplies complete with UK, Euro and USA AC heads.

- Universal AC input
- Fixed output voltage
- 2.1mm C+ VE anti slip DC connector
- RoHS Compliant
- High reliability
- Efficiency Level IV
- **CE, UL, CSA, TUV** approved



Technical specification	Output Volts	Current	Part No	Order code
12V DC	2.5A	T4336ST		85-3720
15V DC	2A	T4337ST		85-3721

Dimensions	74 (L) x 43.5 (W) x 35.3 (H) mm max
Operating temperature	0°C to 40°C
Storage temperature	-10°C to 70°C
Operating humidity	20°C to 80% Rh. Non-Condensing
Storage humidity	10°C to 90% Rh. Non-Condensing

Type	Order code	1+	10+	25+
12V	85-3720	15.88	14.47	13.31
15V	85-3721	15.88	14.47	13.31

123439

PowerPax UK

25W-50W DC Miniature desktop switch mode PSU

These high quality desktop PSUs each offer a regulated fixed single output voltage via a **IEC320-C8** inlet (cable not supplied) order code **23-7497**.

- 2.1 x 5.5 x 12mm female barrel
- **Please note:** A 2.5 x 5.5 x 12mm output connector is fitted to the 12vdc 2.5 amp part (Order code **85-3073**)
- Input voltage of 100V to 240V; AC 50Hz to 60Hz; 1.1A
- No minimum load
- 25W max.
- 5V, 12V, 15V and 24V DC versions available
- +ve centre polarity
- Short circuit and over voltage protection
- Meets radiated and conducted emission requirements of **CISPR22 Class B** and **FCC Class B**
- **CE, UL, cUL, TUV, CB** and **BSMI** approved



Technical specification		100V to 240V; 50Hz to 60Hz
Input voltage		IEC320-C8 (2P)
Cable inlet		2.1 x 5.5 x 12mm
Output barrel		
Output		
85-2950	5V DC	5A 90(L) x 55(W) x 35(D)mm
85-2951	12V DC	3.8A 95(L) x 43(W) x 28(D)mm
85-2952	15V DC	3A 95(L) x 43(W) x 28(D)mm
85-2953	24V DC	2.5A 120(L) x 58(W) x 37(D)mm
Voltage protection	Short circuit and over charge	
Operating temperature	0°C to +40°C	
Storage temperature	-40°C to +85°C	
Weight	193g approx.	
Approved	CE, UL, cUL, TUV, CB and BSMI approved	

Type	Order code	1+	10+	25+	100+
5V DC 5A	85-2950	13.50	12.00	10.50	9.00
12V DC 3.5A	85-2951	17.76	14.21	12.93	12.03
15V DC 2.6A	85-2952	17.76	14.21	12.93	12.03
24V DC 2.5A	85-2953	17.76	14.21	12.93	12.03
24V DC 1.25A PSU	85-3072	12.08	10.51	9.46	8.41
12V DC 2.5A PSU	85-3073	10.98	9.46	8.41	7.36

71065

Downloadable datasheets
www.rapidonline.com

PowerPax UK

60W to 65W Desktop switch mode power supply (2-pin output)

These high quality desktop switch mode PSUs are fitted with an IEC320-C8 inlet, a figure of eight type socket (cable not supplied) order code **23-7497**.

- Input voltage of 100-240V; AC 50-60Hz; 1.5A
- 65W max
- 5V, 12V, 15V and 24V DC versions available
- 2.1 x 5.5 x 12mm female barrel
- +ve centre polarity
- Short circuit, over voltage and over current protection
- 4 versions available
- Meet **FCC Class B** and **CISPR22 Class B**
- **CE, UL, cUL, TUV, CB** and **BSMI** approved



Technical specification			
Dimensions	115 (L) x 53 (W) x 37mm (D)		
Input voltage	100V to 240V; 50Hz to 60Hz; 1.5A		
Cable inlet	IEC320-C8 (2P)		
Output barrel	2.1 x 5.5 x 12mm		
Output	85-2931	12V DC	5A
	85-2932	15V DC	4.2A
	85-2953	24V DC	2.5A
Voltage protection	Short circuit, over voltage and over current protection		
Operating temperature	0°C to 40°C		
Storage temperature	-40°C to +85°C		
No load standby power	0.25-0.75W max		
Weight	261g approx		
Approved	CE, UL, cUL, TUV, CB and BSMI approved		

Type	Order code	1+	10+	25+	100+
12V DC 5A	85-2931	19.77	15.59	14.21	12.80
15V DC 4.2A	85-2932	20.89	16.71	15.31	13.92
18V DC 3.6A desktop PSU	85-3074	17.33	15.76	14.19	12.61
24V DC 2.5A	85-2953	17.76	14.21	12.93	12.03

71063

STONTRONICS

30-60W Mini desktop switch mode PSU

A range of high quality switch mode PSUs.

- Wide range input voltage 90 to 264V AC at 47 to 63Hz
- Short circuit, over voltage and over current protection
- Typically 75% min. efficient at full load
- Fully regulated output
- Connector, 2.1 x 5.5 x 12mm female barrel
- **IEC, TUV, UL** approved



Type	Order code	1+	10+	25+	
12V DC	3A	85-3725	8.91	8.18	7.63
15V DC	3.4A	85-3932	26.17	21.16	19.49

74994

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STONTRONICS

6W International Switch Mode Power Supplies

Stontronics has re-designed its existing range of low cost 6W plug top switch mode power supplies to provide greater efficiency and lower cost. This wide range is available in 3, 5, 9, 12, 15, 18 and 24V options.



This already very competitive range of plug and go top switch mode power supplies has been tweaked to provide an even more competitive solution for your power requirements. Supplied with UK, Euro and USA head adaptors.

- Universal AC input
- Fixed output voltage
- 2.1mm C+ve DC connector
- RoHs Compliant
- Approved by **CE, UL, CSA, TUV**
- Efficiency level IV

Technical specification		Part No.	Order code
Output Volts	Current		
3V DC	2A	T3915ST	85-3700
5V DC	1.2A	T3916ST	85-3701
9V DC	0.66A	T3917ST	85-3702
12V DC	0.5A	T3918ST	85-3703
15V DC	0.4A	T3919ST	85-3704
18V DC	0.33A	T3920ST	85-3705
24V DC	0.25A	T3921ST	85-3706

Type	Order code	1+	10+
3V Pug and Go	85-3700	7.52	6.63
5V Pug and Go	85-3701	6.70	6.20
9V Pug and Go	85-3702	7.52	6.63
12V Pug and Go	85-3703	7.52	6.63
15V Pug and Go	85-3704	6.92	6.10
18V Pug and Go	85-3705	7.52	6.63
24V Pug and Go	85-3706	7.52	6.63

121448

PowerPax UK

90W Desktop switch mode PSU

High quality desktop switch mode PSUs that feature an IEC320 C6 'cloverleaf' inlet and a captive lead with a 2.1 x 5.5 x 12mm female, centre positive DC connector. These PSUs are suitable for a range of applications including LCD monitors, notebooks, printers and portable devices.

- Wide input voltage range 90V to 264V
- Maximum power 90W
- Available in 12V and 24V versions
- LED indication
- Short circuit, over voltage and over current protection
- No load power consumption 0.5W
- Requires a C5 socket to 13A plug cord 2m lead (order code **23-6500**) not supplied
- EMI specification meets **CE/FCC Class B**
- Safety specifications **BSMI, CB, GS, PSE, UL, cUL**



Please note that a C5 socket to 13A plug cord 2m lead is required for this product (order code **23-6500**) For suitable mains lead see **Connectors - mains/power** section

Technical specification			
Input voltage	90V to 264V 47Hz to 63Hz		
Output	85-2981	+12V 7A 84W	
	85-2982	+24V 3.75A 90W	
Efficiency	80% typ.		
Load regulation	±5%		
Leakage current	<3.5mA		
MTBF	50,000 hours min. @ +25°C full load		
Operating temperature	0°C to +40°C @20 to 80% RH		
Storage temperature	-20°C to +60°C @10 to 90% RH		
Dimensions	138 x 61 x 36mm		
Weight	415g		

Type	Voltage	Order code	1+	10+	25+
90W PSU	12V DC	85-2981	30.07	26.73	24.50
90W PSU	24V DC	85-2982	30.07	26.73	24.50

79713

PowerPax UK

120W Desktop switch mode PSU

High quality desktop switch mode PSUs that feature a standard IEC320 C14 inlet and a 1.2m captive lead with a 2.1 x 5.5 x 12mm female, centre positive DC connector. These PSUs are suitable for a range of applications including LCD monitors, notebooks, printers and other peripheral and portable devices.

- Wide input voltage range 90V to 264V
- Maximum power 120W
- Available in 12V and 24V versions
- AC active PFC input design
- Low cost and low weight
- High efficiency and high MTBF
- Compact size and low profile
- No inrush current damage at cold start
- Short circuit, over voltage and over current protection
- Safety specifications **BSMI, CB, CCC, CE, EK, PSE, TUV, cUL**



Technical specification	90V to 264V 50Hz to 60Hz
Input voltage	
Output	12V 10A 120W
85-2983	+24V 5A 120W
85-2984	+10°C to +40°C
Operating temperature	
Dimensions	150 x 65 x 38mm
Weight	514g

Type	Voltage	Order code	1+	10+
120W PSU	12V DC	85-2983	43.43	38.98
120W PSU	24V DC	85-2984	42.00	37.00

79714

TruConnect

DC Power plug adaptor

DC power plug adaptors that will adapt the most common of DC power plug sizes. Will work with most AC adaptors.

- Nickel plated contacts



Technical specification	
Order code	Input socket
85-2916	2.1mm
85-2917	2.5mm
85-2918	2.1mm
	Output plug
	2.5mm
	2.1mm
	1.3mm

Type	Size	Order code	1+	10+	100+	500+
Adaptor	2.1 to 2.5mm	85-2916	0.946	0.794	0.672	0.591
Adaptor	2.5 to 2.1mm	85-2917	0.883	0.746	0.641	0.57
Adaptor	2.1 to 1.3mm	85-2918	0.977	0.883	0.82	0.778

75712

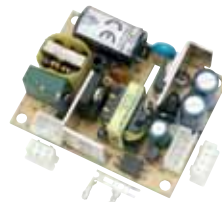
Open/DIN Power Supplies

PowerPax UK

12W Miniature open frame switch mode PSU

This range of open frame switch mode power supplies are designed to provide single regulated outputs from small and compact units that are manufactured to a very high quality.

- Small and compact size - just 55 x 42.8 x 20.3mm
- 100% Burned in and tested prior to leaving factory
- Universal AC input/full range
- Mains input is non-polarised, wires may be connected either way round
- Short circuit, overload and overvoltage protection
- Cooling by free air convection
- LED indicator for power on
- Self-assembly input and output connectors and terminals (**JST XH** type) are available separately, please see below
- **CE** and **EMC** approved



Crimp tool required for connectors - please see **Hand tools** section.

Technical specification	100-240V AC 50/60Hz
Input voltage	90-264V AC 47/63Hz
Range voltage	
Output power	12W
Overcurrent protection	120% min.
Overvoltage protection	120% min.
Short circuit protection	Auto recovery
Load regulation	±5%
Efficiency	70% min.
Withstand voltage	3000V AC (between input and output @10mA max.)
Insulation resistance	100MΩ @500V DC (between input and output)
Operating temperature	0°C to 40°C @5-95% RH
Storage temperature	-20°C to +85°C
Input connector type	JST B3B-XH-A
Output connector type	JST B4B-XH-A
Connector terminal pin	SXH-001T-P0.6

Voltage	Current	Order code	1+	10+	25+	100+
5V DC	2.3A	85-2251	7.74	6.97	6.57	6.13
6V DC	2A	85-2249	7.74	6.97	6.57	6.13
12V DC	1A	85-2253	7.74	6.97	6.57	6.13

15V	0.8A	85-2258	7.74	6.97	6.57	6.13
24V	0.5A	85-2259	7.74	6.97	6.57	6.13
3-way Connector		85-2282	0.084			
4-way Connector		85-2283	0.106			
Connector terminal		85-2284	0.021			

76990



Mean Well Chassis

This range of Mean Well power supplies offer a low cost, high reliability, switch mode power supply and are available with output powers of 25W, 40W, 60W and 150W. They are compact and lightweight and are designed to be mounted into equipment/racks etc. They have a universal mains input voltage and have overload, and overvoltage protection.

- High efficiency, low working temperature
- 100% full load burn-in tested
- Short-circuit, overload, overvoltage protection
- Compact size and lightweight



Technical specification								
Model	Current	Ripple/noise	Line	DC Output	Dimensions (mm)	Weight	Order code	
5V	5A	50mV ±0.5%	±1%	0.72	99 x 97 x 35	0.37kg	85-2268	
12V	2.1A	100mV ±0.5%	±0.5%	0.76	99 x 97 x 35	0.37kg	85-2270	
5V	8A	75mV ±0.5%	±1%	0.72	129 x 98 x 38	0.45kg	85-2272	
12V	3.5A	100mV ±0.5%	±0.5%	0.76	129 x 98 x 38	0.4kg	85-2274	
5V	12A	120mV ±0.5%	±1%	0.73	159 x 97 x 38	0.55kg	85-2276	
12V	5A	120mV ±0.5%	±0.5%	0.76	159 x 97 x 38	0.55kg	85-2278	
5V	30A	150mV ±0.5%	±1%	0.78	199 x 110 x 50	0.8kg	85-2284	
12V	12.5A	180mV ±0.5%	±0.5%	0.82	199 x 110 x 50	0.8kg	85-2286	
24V	6.5A	240mV ±0.5%	±0.25%	0.85	199 x 110 x 50	0.8kg	85-2288	

Voltage	Power	Order code	1+	5+	10+
5V	25W	85-2268	20.89	18.80	17.39
12V	25W	85-2270	20.89	18.80	17.39
5V	40W	85-2272	25.76	22.98	21.58
12V	40W	85-2274	25.76	22.98	21.58
5V	60W	85-2276	27.84	25.06	22.97
5V	150W	85-2284	40.37	36.19	33.42
12V	150W	85-2286	40.37	36.19	33.42
24V	150W	85-2288	40.37	36.19	33.42

68073

RVFM

DIN Rail mounting power supplies

Rugged but light weight high grade industrial units in a compact size. Feature short circuit, over load, over voltage and over temperature protection.

- 115/230V AC input
- LED power on indicator
- 100% full load burn in test
- Many applications including use as a battery charger
- Worldwide approvals - **UL/CUL/TUV/CB/CE**



Technical specification						
Model	Output current (A)	Output voltage adjustment range	Dimensions (W x H x D mm)	Case material	Order code	
P-30-05	5	0-3	4.75-5.5V	77 x 93 x 66	Plastic	85-1360
P-30-12	12	0-2	10.8-13.2V	77 x 93 x 66	Plastic	85-1361
P-30-24	24	0-1.3	21.6-26.4V	77 x 93 x 66	Plastic	85-1363
P-50-05	5	0-5	4.75-5.5V	77 x 93 x 66	Plastic	85-1364
P-50-12	12	0-3.5	10.8-13.2V	77 x 93 x 66	Plastic	85-1365
P-50-15	15	0-2.8	13.5-16.5V	77 x 93 x 66	Plastic	85-1366
P-50-24	24	0-2	21.6-26.4V	77 x 93 x 66	Plastic	85-1367
P-75-12	12	0-6.3	12-14V	55 x 125 x 100	Metal	85-1368
P-75-24	24	0-3.2	24-28V	55 x 125 x 100	Metal	85-1369
P-75-48	48	0-1.6	48-53V	55 x 125 x 100	Metal	85-1370
P-120-12	12	0-10	12-14V	65 x 125 x 100	Metal	85-1371
P-120-24	24	0-5	24-28V	65 x 125 x 100	Metal	85-1372
P-120-48	48	0-2.5	48-53V	65 x 125 x 100	Metal	85-1373
P-240-24	24	0-10	24-28V	125 x 125 x 100	Metal	85-1374
P-240-48	48	0-5	48-53V	125 x 125 x 100	Metal	85-1375
P-480-24	24	0-20	24-28V	227 x 125.2 x 100	Metal	85-1376
P-480-48	48	0-10	48-55V	227 x 125.2 x 100	Metal	85-1377

Type	Order code	1+	5+
P-30-05	85-1360	42.76	39.98
P-30-12	85-1361	42.76	39.98
P-30-24	85-1363	32.41	30.19
P-50-05	85-1364	48.88	46.10
P-50-12	85-1365	48.88	46.10
P-50-15	85-1366	48.88	46.10
P-50-24	85-1367	39.76	36.97
P-75-12	85-1368	75.73	70.71
P-75-24	85-1369	62.36	58.47
P-75-48	85-1370	75.73	70.71
P-120-12	85-1371	95.22	88.54
P-120-24	85-1372	72.05	67.60
P-120-48	85-1373	95.22	88.54
P-240-24	85-1374	113.59	105.80
P-240-48	85-1375	142.89	132.86
P-480-24	85-1376	169.83	158.70
P-480-48	85-1377	179.63	168.50

70641

STONTRONICS

Enclosed 'PowerLD' range Switch Mode Power Supplies



Enclosed chassis type switch mode power supplies offering a wide range of voltages and power ratings.

- Stontronics 'PowerLD' range

Type	Order code	1+	10+	25+
5V DC 15W	90-2500	13.68	13.12	12.07
5V DC 25W	90-2501	14.21	13.61	12.54
5V DC 35W	90-2502	16.35	15.67	14.42
5V DC 50W	90-2503	19.10	18.31	16.85
5V DC 60W	90-2504	23.35	22.39	20.60
5V DC 100W	90-2505	28.23	27.07	24.91
5V DC 150W PD	90-2506	28.84	27.65	25.45
5V DC 150W PDF	90-2507	42.09	40.34	37.14
5V DC 200W	90-2508	50.74	48.66	44.77
5V DC 320W	90-2509	59.45	57.01	52.46
12V DC 15W	90-2510	13.68	13.12	12.07
12V DC 25W	90-2511	14.21	13.61	12.54
12V DC 35W	90-2512	16.35	15.67	14.42
12V DC 50W	90-2513	19.10	18.31	16.85
12V DC 60W	90-2514	23.35	22.39	20.60
12V DC 100W	90-2515	28.23	27.07	24.91
12V DC 150W PD	90-2516	28.84	27.65	25.45
12V DC 150W PDF	90-2517	42.09	40.34	37.14
12V DC 200W	90-2518	50.74	48.66	44.77
12V DC 320W	90-2519	59.45	57.01	52.46
12V DC 500W	90-2520	92.32	88.52	81.46
15V DC 15W	90-2521	13.68	13.12	12.07
15V DC 25W	90-2522	14.21	13.61	12.54
15V DC 35W	90-2523	16.35	15.67	14.42
15V DC 50W	90-2524	19.10	18.31	16.85
15V DC 60W	90-2525	23.35	22.39	20.60
15V DC 100W	90-2526	28.23	27.07	24.91
15V DC 150W PD	90-2527	28.84	27.65	25.45
15V DC 150W PDF	90-2528	42.09	40.34	37.14
15V DC 200W	90-2529	50.74	48.66	44.77
15V DC 320W	90-2530	59.45	57.01	52.46
15V DC 500W	90-2531	92.32	88.52	81.46
24V DC 15W	90-2532	13.68	13.12	12.07
24V DC 25W	90-2533	14.21	13.61	12.54
24V DC 35W	90-2534	16.35	15.67	14.42
24V DC 50W	90-2535	19.10	18.31	16.85
24V DC 60W	90-2536	23.35	22.39	20.60
24V DC 10W	90-2537	28.23	27.07	24.91
24V DC 150W PD	90-2538	28.84	27.65	25.45
24V DC 150W PDF	90-2539	42.09	40.34	37.14
24V DC 200W	90-2540	50.74	48.66	44.77
24V DC 320W	90-2541	59.45	57.01	52.46
24V DC 500W	90-2542	92.32	88.52	81.46
48V DC 15W	90-2543	13.68	13.12	12.07
48V DC 60W	90-2544	23.35	22.39	20.60
48V DC 100W	90-2545	28.23	27.07	24.91
48V DC 150W PD	90-2546	28.84	27.65	25.45
48V DC 150W PDF	90-2547	42.09	40.34	37.14
48V DC 200W	90-2548	50.74	48.66	44.77
48V DC 320W	90-2549	59.45	57.01	52.46
48V DC 500W	90-2550	92.32	88.52	81.46

517106

STONTRONICS

Open Frame 'PowerLD' range Switch Mode Power Supplies

Open frame chassis type switch mode power supplies offering a wide range of voltages and power ratings.

- Stontronics 'PowerLD' range



Type	Order code	1+	10+	25+
5V DC 5W	90-2551	12.64	12.12	11.15
5V DC 20W	90-2552	12.64	12.12	11.15
5V DC 60W	90-2553	19.43	18.62	17.15
5V DC 125W	90-2554	36.56	35.06	32.26
12V DC 5W	90-2555	12.64	12.12	11.15
12V DC 20W	90-2556	12.64	12.12	11.15
12V DC 60W	90-2557	19.43	18.62	17.15
12V DC 125W	90-2558	36.56	35.06	32.26
15V DC 5W	90-2559	12.64	12.12	11.15
12V DC 20W	90-2560	12.64	12.12	11.15
12V DC 60W	90-2561	19.43	18.62	17.15
12V DC 125W	90-2562	36.56	35.06	32.26
24V DC 20W	90-2563	12.64	12.12	11.15
24V DC 60W	90-2564	19.43	18.62	17.15
24V DC 125W	90-2565	36.56	35.06	32.26
48V DC 20W	90-2566	12.64	12.12	11.15
24V DC 60W	90-2567	19.43	18.62	17.15
24V DC 125W	90-2568	36.56	35.06	32.26

517107

CCTV Power Supplies

STONTRONICS

Slim Constant Current and Constant Voltage LED Drivers



The Stontronics SNP range of LED drivers includes both Constant Voltage and Constant Current models offering a wide range of voltages and power ratings. The drivers are self-contained AC-DC converters in a very slim-line form factor with easy connections via terminal blocks. The drivers are perfect for LED lighting applications, for example, cabinet lighting and residential lighting where space is at a premium.

- Constant Voltage and Constant Current models
- Wide range of voltages and power ratings
- Self-contained AC-DC converters
- Very slim-line form factor
- Easy connections via terminal blocks
- Perfect for LED lighting applications where space is at a premium



Type	Order code	1+	10+	25+
Constant Voltage				
12V, 6W	90-2654	7.00	6.71	6.18
24V, 6W	90-2655	7.00	6.71	6.18
12V, 12W	90-2658	10.14	9.73	8.95
24V, 12W	90-2659	10.14	9.73	8.95
12V, 15W	90-2662	9.71	9.31	8.57
24V, 20W	90-2663	9.71	9.31	8.57
12V, 20W	90-2667	10.49	10.06	9.26
24V, 20W	90-2668	10.49	10.06	9.26
12V, 30W	90-2672	16.75	16.05	14.78
24V, 30W	90-2673	16.75	16.05	14.78
12V, 50W	90-2674	23.67	22.69	20.88
24V, 50W	90-2675	23.67	22.69	20.88
Constant Current				
17.1V, 6W	90-2656	7.00	6.71	6.18
8V, 6W	90-2657	7.00	6.71	6.18
34V, 12W	90-2660	10.14	9.73	8.95
17V, 12W	90-2661	10.14	9.73	8.95
43V, 15W	90-2664	9.71	9.31	8.57
30V, 15W	90-2665	9.71	9.31	8.57
21V, 15W	90-2666	9.71	9.31	8.57
56V, 20W	90-2669	10.49	10.06	9.26
40V, 20W	90-2670	10.49	10.06	9.26
29V, 20W	90-2671	10.49	10.06	9.26

517179

Scheduled orders

Rapid will store your order *FREE OF CHARGE* and then deliver the required amount along with an individual invoice on your specified dates.

Fax your scheduled order and required dates to:



01206 751188

PowerPax UK

12V DC Miniature PSU wall mount

These switch mode PSUs feature a case with fixing lugs, enabling them to be easily wall mounted. The performance specification and compact, rugged design of these units make them ideal for use in CCTV and other security applications as well as for general use as a SMPS.

- Available in 18W or 12W versions
- 12V DC fixed output
- Captive leads
- 2.1 x 5.5 x 12mm female barrel
- +ve centre polarity
- Low ripple and noise
- Short circuit, overcurrent and overvoltage protection
- EMI: Meets **FCC class B, VCCI Class B, CISPR 22 Class B**
- **CE, cUL, TUV, PSE** approved



Technical specification

AC Input	Order code
Voltage typ.	100 to 240V
Frequency	50/60Hz
Current max.	440mA
Inrush current	50A
Efficiency	0.75
Leakage current	0.25mA
DC Output	
Voltage typ.	12V
Voltage range	11.4 to 12.6V
Load current max.	1.5A
	85-3305
	85-3306
Ripple	1.0A
Noise	120mV
Hold-up time	240mV
Turn-on delay	10ms
Overvoltage protection	2s
Standby consumption	19.5V
	0.5W

Dimensions	92.2(L) x 49.8(W) x 26.3(H)mm
Output barrel	2.1 x 5.5 x 12mm
Operating temperature	0°C to +40°C
Storage temperature	-20°C to +65°C
Weight	135g approx.

Type	Output	Order code	1+	10+	25+	100+
18W SMPS	12V 1.5A	85-3305	10.97	10.24	9.69	9.02
12W SMPS	12V 1.0A	85-3306	9.47	7.80	7.24	6.63

81326

STONTRONICS

12V DC SMPSU Switch mode camera

A low cost high quality range of 12V DC power supplies for CCTV installation.

- Universal AC input
- Fixed 12VDC output
- Bare end mains lead
- 2.1mm DC connector
- Efficiency level IV
- Wall mountable
- RoHS Compliance
- **CE** approved



Technical specification

Output	Volts	Current	Weight	Frequency	Part No.	Order code
12V DC	1.0A	150gm	47-63Hz	SPA1201000-SP	85-3770	
12V DC	1.5A	150gm	47-63Hz	SPA1201500-SP	85-3771	
12V DC	2.0A	150gm	47-63Hz	SPA1202000-SP	85-3772	

Type	Order code	1+	10+	25+	100+
12V DC, 1A CCTV	85-3770	6.90	6.13	5.51	4.79
12V DC, 1.5A CCTS	85-3771	9.91	9.02	8.35	7.24
12V DC 2A CCTV	85-3772	11.47	10.24	9.47	8.35

123422

STONTRONICS

Waterproof CCTV power supplies

A low cost high quality range of 12V DC and 24V AC power supplies for CCTV installation.

- 12V DC or 24V AC output
- Waterproof to IP65
- Fused inputs and outputs
- Terminal block connection
- Wall mountable
- RoHS Compliant**CE** and **IP65** approved



Technical specification

Output Volts	Current	Dimensions	Weight	Input	Current	Part No.	Order code
12VDC	1.5A	140x80x65mm	0.525kg	90 to 264VAC	1.5A	AD12150W	85-3775
12VDC	2.0A	140x80x65mm	0.525kg	90 to 264VAC	2.0A	AD12200W	85-3776
24VAC	1.0A	140x80x65mm	1.0kg	230VAC	1.0A	AC24100W	85-3777
24VAC	2.0A	140x80x65mm	1.1kg	230VAC	2.0A	AC24200W	85-3778
24VAC	4.0A	140x80x65mm	1.5kg	230VAC	4.0A	AC24400W	85-3779
24VAC	5.0A	185x120x90mm	1.7kg	230VAC	5.0A	AC24500W	85-3780

Type	Order code	1+	10+	25+
12V DC, 1.5A	85-3775	32.85	29.51	27.29
12V DC, 2.0A	85-3776	35.08	31.18	28.96
24V DC, 1.0A	85-3777	31.74	28.96	26.73
24V DC, 4.0A	85-3779	46.77	41.21	38.98

123426

STONTRONICS

60W Installation SMPSU (power supply unit)

A high quality 60W wall mountable power supply.

- Range - 12V and 24V
- Wall mountable
- Efficiency level IV
- Universal / Full range AC input
- Fixed AC mains lead (UK or bare)
- Class II power (no earth)
- Small and compact design
- Built-in wall-mounting tabs
- Cost effective and high reliability Protections:
- Over voltage, short circuit and over temp.
- Level V ErP/EuP efficiency compliant
- MTBF >50,000 hours
- Approvals: **CE** and **UL**
- 1 year warranty



Technical specification

Output Volts	Current (output)	Input	Current (input)	Part No.	Order code
12V	5000mA	90-254V AC	1.5A	T4483ST	85-3785
24V	2500mA	90-254V AC	1.5A	T4484ST	85-3786

Type	Order code	1+	10+	25+
12V DC 60W	85-3785	16.53	14.76	13.76
24V DC 60W	85-3786	17.88	16.09	15.09

123430

TTi

QPX1200-L Power supply 1200W PowerFlex max 60V or 50A with LXI



The new QPX1200L laboratory DC power supply from TTI is a 1.2kW unit featuring PowerFlex regulation. This enables it to offer voltage and current combinations between 60V/20A and 20V/50A making it suitable for a very wide range of applications.

The QPX1200 includes a linear output stage within its PowerFlex regulator. This gives it a very low output noise of less than 3mV rms, and a transient recovery time, typically ten times better than conventional switch mode units.

It is fully digitally controlled using instrumentation quality 16-bit DACs. Local setting is by either numeric keypad or spin wheel, and remote control interfaces of analogue, RS-232, USB and LAN (Ethernet) are included as standard.

The LAN interface conforms to LXI (LAN extensions for Instrumentation). Unlike most higher power laboratory PSUs, the QPX1200L is equally suited to bench or rack-mount applications. Output and sense terminals are provided on both the front and rear panels. The case has been fitted with integral tilt feet.

- PowerFlex design gives variable voltage/current combinations
- Up to 60V and up to 50A within a power envelope
- Linear final regulation provides very low output noise
- Setting by direct numeric entry or by spin wheel
- High setting resolution of 1mV in up to 60V
- Multiple non-volatile setting memories
- Bench or rack mounting with front and rear terminals
- Analog, RS232, and USB interfaces standard, LAN option

Technical specification

Voltage range:	0V to 60V
Current range:	0A to 50A
Power range:	Up to 1200W
Operating mode:	Constant voltage or constant current
Voltage setting:	Numeric entry or rotary jog wheel
Current setting:	floating point numeric entry or rotary jog wheel;
Setting accuracy:	± 2mV
Setting stores:	Up to 10 set-ups can be saved
Load regulation:	90% load change
Line regulation:	10% line voltage change
Ripple and noise:	Typically <3mV rms,
Transient response:	90% load change
Temp coefficient:	Typically <100ppm/°C
Output protection:	Forward protection by OVP trip;
Protection functions:	Power Limiter, over-voltage,
Status indication:	Display indication of Output Message on display
Output switch:	Push switch
Output terminals:	Front and rear output and sense terminals
Sensing:	Selectable local or remote sensing
AC Input:	110V to 240V AC
Power consumption:	1600VA max
Operating range:	+5°C to +40°C, 20%
Storage range:	-40°C to +70°C
Environmental:	Altitudes to 2000m,
Safety:	Complies with EN61010-1
EMC:	Complies with EN61326
Size:	350(W) x 130(H) x 413(D)mm (3U height)
Weight:	92kg

Type	Order code	1+
QPX1200-L Power Supply	85-1318	972.00

400519

Desktop Power Supply Units

STONTRONICS

42W Installation PSU

A range of high quality switch mode PSUs.

- Universal full range AC Input 90V to 264V AC
- Output range -12V and 24V
- Wall mountable
- Efficiency level IV
- Fixed AC mains lead (UK or bare)
- Class II power (no earth)
- Small and compact design
- Cost effective and high reliability
- Over voltage, short circuit and over temperature Protections:
- Low ripple and noise
- No minimum load requirement
- 100% burn in test
- Wall mountable flanged case
- Approvals: **CE** and **UL**
- 1 year warranty



Technical specification			
Model No:	DSA-0421S-12	DSA-0421S-24	
Order code	85-3760	85-3761	
Voltage:	12V DC	24V DC	
Current (Max):	3.5A	1.75A	
Current (Min):	0A	0A	
Line Regulation	+/-2%	+/-2%	

Type	Order code	1+	10+	25+
12V, 42W	85-3760	15.04	13.37	11.70
24V, 42W	85-3761	15.04	13.37	11.70

400555

STONTRONICS

12VDC 5Amp C14 Desktop SMPSU T3637EG

This 60W switch mode power supply is a level V energy efficiency complaint reaching over 87% efficiency and no load power consumption under 0.5%.

- Input voltage: Universal - 90-264V AC via C15 (kettle) mains inlet.
- Output details: 12Vdc 5Amp 60W with 1M DC lead
- Connector: Right angled 2.1 x 5.5 x 12mm C+ve



Type	Order code	1+
Desktop SMPSU	85-3934	15.38

500709

STONTRONICS

20-24W desktop SMPSU (power supply unit)

This desktop power supply is fully approved to meet UL and GS safety approvals. This unit is also highly efficient averaging between 80% and 90% efficiency. This means it meets all current any future EU and government energy efficiency legislation.

This unit gives you complete peace of mind - its high quality design and components coupled with energy efficient power conversion will keep you safe in the knowledge that your product is supported by a reliable power supply unit.

- Universal / Full range AC input
- 2-pole figure of eight connector inlet
- Class I power (with earth pin)
- Fully enclosed attractive plastic case
- Small and Compact design
- Cost effective and high reliability Protections:
- Over Voltage, Short circuit and Over Temp.
- Approvals: GS, UL/cUL & CE
- Level V ErP/EuP efficiency compliant
- MTBF >50,000 hours
- 1 Year Warranty



Technical specification			
Input voltage range:	100 - 240V AC		
Input frequency:	50 - 60Hz		
Input current:	800mA max		
Leakage current:	3.5mA		
AC Inlet:	IEC320 - C8 (Figure-8) Type		
Output voltage:	+12V DC		
Ripple and noise:	200mV p-p max		
Efficiency:	82.1% min		

Type	Order code	1+	5+	10+
20-24W desktop SMPSU	85-3949	9.74	8.20	7.69

500411

STONTRONICS

C14 Switch Mode Desktop Power Supplies

This series of AC/DC switching mode power supplies includes models which can provide up to 42W of continuous output power. All models are UL 94-1 min compliant and meet FCC Part-15 class B and CISPR-22 class B emission limits. They are designed to comply with UL/c-UL(UL 60950-1: 2nd edition), TUV/GS (EN 60950-1: 2nd edition) and new CE requirements. All units are 100% burned-in and tested.

- Wide operating Voltage 90 to 264V AC, 47 to 63Hz
- IEC-320-C14 input socket
- Single output
- Energy Star 2.0, Efficiency level V
- Class 1
- Manufacturer's 2 year warranty
- Please see datasheets for full specification



Type	Order code	1+	10+	25+
5V, 2.6A	90-2595	7.12	6.84	6.29
6VDC 3A 18W	90-2596	7.93	7.61	7.00
7V, 2.14A	90-2597	7.93	7.61	7.00
9V, 1.66A	90-2598	7.93	7.61	7.00
12V, 1.25A	90-2599	7.12	6.84	6.29
15V, 1A	90-2600	7.41	7.10	6.54
18V, 0.83A	90-2601	8.52	8.17	7.52
24V, 0.62A	90-2602	8.52	8.17	7.52
3V, 5A	90-2603	27.56	26.43	24.32
5V, 5A	90-2604	26.96	25.85	23.79
6V, 4A	90-2605	25.96	24.90	22.91
7.5V, 3.3A	90-2606	27.31	26.18	24.10
9V, 3.3A	90-2607	27.53	26.39	24.29
12V, 2.5A	90-2608	24.82	23.79	21.89
15V, 2A	90-2609	24.00	23.01	21.18
18V, 1.66A	90-2610	24.34	23.34	21.48
24V, 1.25A	90-2611	23.33	22.38	20.59
48V, 0.63A	90-2612	29.85	28.62	26.34
12V, 3.5A	90-2613	8.52	8.17	7.52
24V, 1.75A	90-2614	9.50	9.10	8.38

517092

STONTRONICS

C8 Desktop Power Supplies

A range of high quality 12W switch mode PSUs that have 2-pin IEC C8 input connectors, often referred to as Figure 8 connectors.

- Wide range input voltage 90 to 255V AC at 47 to 63Hz
- Short circuit, over voltage and over current protection
- Minimum 60% efficiency
- Fully regulated output
- Connector, 2.1 x 5.5 x 12mm female barrel
- Dimensions 75 x 47.5 x 27.3mm
- IEC, TUV, UL approved
- Please see datasheets for full specifications



Type	Order code	1+	10+	25+
5V DC	85-3940	9.91	8.08	7.74
6V, 2A	90-2616	6.60	6.33	5.83
7V, 1.75A	90-2617	6.60	6.33	5.83
9V DC	85-3941	9.91	8.08	7.74
10V, 1.2A	90-2618	5.80	5.57	5.13
Type	Order code	1+	5+	10+
12W SMPS	85-1864	11.00	9.00	7.00
Type	Order code	1+	10+	25+
15V, 0.8A	90-2619	6.60	6.33	5.83
18V, 0.67A	90-2620	5.65	5.41	4.98
24V, 0.5A	90-2621	5.80	5.57	5.13

517093



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STONTRONICS

C8 12V Switch Mode Power Supplies

A range of high quality 12V DC switch mode PSUs with current ratings from 1 to 6.6A. The power supplies have right-angled 2.1mm output plugs and 2-pin IEC C8 input connectors, often referred to as Figure 8 connectors.

- Wide range input voltage 90 to 264V AC at 47 to 63Hz
- Short circuit, over voltage and over current protection
- High efficiency
- Fully regulated output
- Connector, 2.1 x 5.5 x 12mm right-angled female barrel
- **UL/CUL, GS, CE & FCC** approved
- Please see datasheets for full specifications



Type	Order code	1+	10+	25+
12V, 1A	90-2622	5.80	5.57	5.13
12V, 1.25A	90-2623	6.60	6.33	5.83
12V, 5A	90-2624	11.10	10.64	9.80
12V, 6.6A	90-2625	25.29	24.24	22.31

517094

STONTRONICS

C8, 15W Switch Mode Power Supplies

A range of high quality 15W DC switch mode PSUs with voltages from 5V to 24V DC. The power supplies have right-angled 2.1 x 5.5 x 12mm right-angled female barrel output plugs and 2-pin IEC C8 input connectors, often referred to as Figure 8 connectors.

- Wide range input voltage 90 to 264V AC at 47 to 63Hz
- Short circuit, over voltage and over current protection
- High efficiency
- Fully regulated output
- Connector, 2.1 x 5.5 x 12mm right-angled female barrel
- **UL/CUL, GS, CE & FCC** approved
- Please see datasheets for full specifications



Type	Order code	1+	10+	25+
5V, 2.6A	90-2626	7.41	7.10	6.54
7V, 2.14A	90-2628	8.52	8.17	7.52
9V, 1.7A	90-2629	7.41	7.10	6.54
12V, 1.25A	90-2630	6.60	6.33	5.83
15V, 1A	90-2631	8.52	8.17	7.52
18V, 0.84A	90-2632	8.52	8.17	7.52
24V DC	85-3946	11.98	9.80	9.35

517095

STONTRONICS

24V, 60W Desktop Adaptor

A high quality 24V DC, 60W switch mode PSU with a straight 5.5 x 12 x 2.1mm output plug and 2-pin IEC C8 input connector, often referred to as a Figure 8 connector.

- Wide range input voltage 90 to 264V AC at 47 to 63Hz
- Short circuit, over voltage and over current protection
- High efficiency
- Fully regulated output
- Connector, 2.1 x 5.5 x 12mm straight female barrel
- **UL/CUL, GS, CE** approved
- Please see datasheet for full specification



Type	Order code	1+	10+	25+
24V, 60W	90-2633	12.86	12.33	11.35

517109



Technical data
Contact us directly on
01206 751166



or download from our website
www.rapidonline.com

STONTRONICS

C14 Desktop Switch Mode Power Supplies

A wide range of single output AC/DC Switch Mode Desktop Power Supplies with standard IEC 320 C14 input connectors. The range offers power outputs from 15 to 63W with a variety of output voltages to suit most requirements.

- **UL 94-1** min compliant
- Designed to comply with **UL/c-UL (UL 60950-1: 2nd edition)** and new **CE** requirements
- All units 100% burned-in and tested
- Wide input voltage range 90 to 264V AC
- Input frequency range 47 to 63Hz
- **IEC-320-C14** input inlet
- Class 1 power
- Manufacturer's warranty
- Please see data sheets for full specifications



Type	Order code	1+	10+	25+
9V, 1.67A	90-2569	16.97	16.28	14.98
12V, 1.25A	90-2570	12.99	12.44	11.46
15V, 1A	90-2571	17.32	16.61	15.28
18V, 0.84A	90-2572	12.92	12.38	11.40
24V, 0.63A	90-2573	16.28	15.60	14.36
48V, 0.3A	90-2574	15.89	15.24	14.02
3.3V, 2.5A	90-2575	19.94	19.12	17.59
13.5V, 1.1A	90-2576	16.71	16.02	14.75
5V, 4A	90-2577	8.66	8.30	7.65
9V, 2.2A	90-2578	9.16	8.78	8.09
12V, 1.66A	90-2579	9.16	8.78	8.09
15V, 1.33A	90-2580	9.16	8.78	8.09
18V, 1.1A	90-2581	9.16	8.78	8.09
24V, 1A	90-2582	9.16	8.78	8.09
5V, 10A	90-2583	39.85	38.21	35.17
12V, 5A	90-2584	47.80	45.83	42.18
15V, 4A	90-2585	47.80	45.83	42.18
24V, 2.5A	90-2586	47.80	45.83	42.18

517089

STONTRONICS

C14 Desktop Switch Mode Power Supplies with right angle connectors

A range of single output AC/DC Switch Mode Desktop Power Supplies with standard IEC 320 C14 input connectors and right angle 2.1mm, centre positive output connectors.

- **UL 94-1** min compliant
- Designed to comply with **UL/c-UL (UL 60950-1: 2nd edition)** and new **CE** requirements
- All units 100% burned-in and tested
- Wide input voltage range 90 to 264V AC
- Input frequency range 47 to 63Hz
- **IEC-320-C14** input inlet
- Class 1 power
- Manufacturer's warranty
- Please see data sheets for full specifications



Type	Order code	1+	10+	25+
12V, 2A	90-2587	9.16	8.78	8.09
12V, 3.5A	90-2588	8.52	8.17	7.52
12V, 12.5A	90-2589	67.63	64.84	59.68

517090

STONTRONICS

C14 Switch Mode Power Supplies

A range of Switch Mode Power Supplies with 3 pole IEC320-C14 (kettle) inlets. The supplies have fully enclosed, attractive plastic cases and benefit from a small and compact design. They are cost effective and highly reliable with an MTBF greater than 50,000 hours. Approvals: **GS, UL/cUL & CE**.

- Universal / Full range AC input
- 3 pole IEC320-C14 (kettle) inlet
- Class I power (with earth pin)
- Fully enclosed attractive plastic case
- Small & Compact design
- Cost effective and high reliability
- Protections: Over Voltage, Short circuit & Over Temperature
- Approvals: **GS, UL/cUL & CE**
- Level V ErP/EuP efficiency compliant
- MTBF >50,000 hours
- 1 Year Manufacturer's Warranty



Type	Order code	1+	10+	25+
12V, 1.25A	90-2590	7.12	6.84	6.29
12V, 1.5A	90-2591	7.25	6.95	6.40
12V, 2A	90-2592	8.69	8.33	7.68
12V, 10A	90-2594	40.65	38.98	35.88
24V, 3.75A	90-2593	25.29	24.24	22.31

517091

