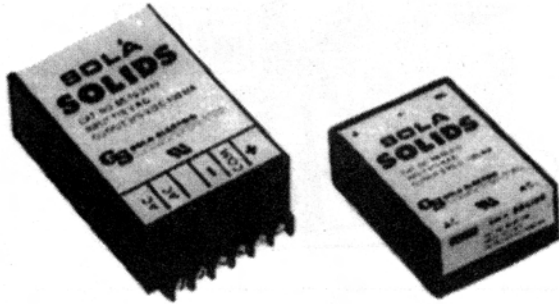


SOLA SOLIDS LINEAR POWER MODULES

PRINTED CIRCUIT BOARD SERIES



85-05-210

84-15-2110



FEATURES

- Two year warranty
- UL recognized
- CSA certified
- Printed circuit board mounting or chassis mount
- Solid, dependable, rugged
- Single output or dual tracking outputs
- Plug-in mating sockets available
- Automatic overload protection fully tested
- Operation at rated load from -25°C to +50°C ambient

SPECIFICATIONS

Source (Input) Voltage: 115 VAC ±10 VAC (50 to 400 Hz)
Output Voltage Accuracy: ±1%
Operating Ambient Temp: -25°C to +50°C (operation at elevated levels may require derating. Consult factory.)
Temp. Effect Coefficient: 0.02% per °C
Storage Temp.: -25°C to +85°C
Source (Input) Isolation: 50 Megohms
Source (Line Regulation): +.02% or 2.5 mv
Load Effect (Load Regulation): ±.02% or 2.5 mv

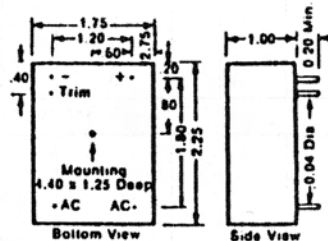
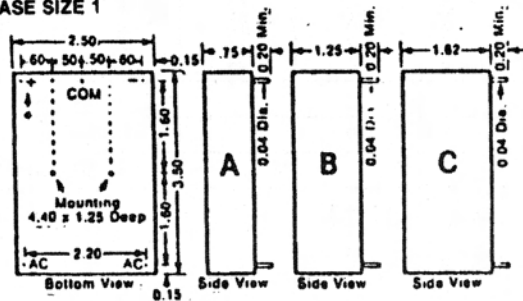
CHASSIS MOUNT SERIES

Mfr. No.	Output Voltage	Output Current	Source Effect Max.	Load Effect Max.	PARD	Case Size
SINGLE OUTPUT						
85-05-210*	5V	1000mA	±0.05%	±0.15%	2 MV	3A
85-05-220*	5V	2000mA	±0.05%	±0.15%	2 MV	3B
85-05-150	5V	500mA	±0.05%	±0.05%	2 MV	3A
DUAL OUTPUT						
85-12-2124	±12V	240 mA	±0.05%	±0.05%	1 mV	3A
85-12-2140	±12V	400 mA	±0.05%	±0.05%	1 mV	3B
85-15-2110	±15V	100 mA	±0.05%	±0.05%	1 mV	3A
85-15-2120	±15V	200 mA	±0.05%	±0.05%	1 mV	3A
85-15-2135	±15V	350 mA	±0.05%	±0.05%	1 mV	3B
85-15-2150	±15V	500 mA	±0.05%	±0.05%	1 mV	3B
TRIPLE OUTPUT						
85-15-33115	+5V ±15V	300 mA 150 mA	±0.05%	±0.05%	1 mV	3A
85-15-13115	+5V ±15V	1000 mA 150 mA	±0.05%	±0.05%	1 mV	3B

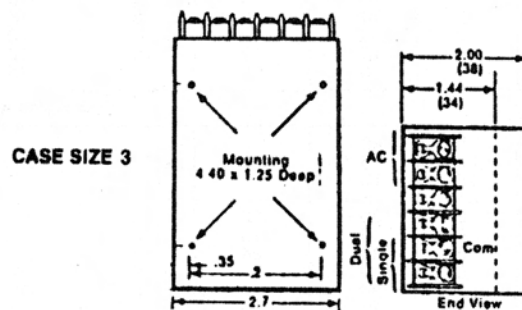
Note: Overvoltage crowbar set to trip at 6.2V nominal.

Mfr. No.	Output Voltage	Output Current	PARD	Case Size
SINGLE OUTPUT				
84-05-150	5 VDC	500 mA	1 mV RMS	1A
84-05-210	5 VDC	1000 mA	1 mV RMS	1B
84-05-220	5 VDC	2000 mA	1 mV RMS	1C
84-10-112	10 VDC	120 mA	0.5 mV RMS	2
84-12-110	12 VDC	100 mA	0.5 mV RMS	2
84-15-110	15 VDC	100 mA	0.5 mV RMS	2
84-24-050	24 VDC	50 mA	1.0 mV RMS	2
DUAL OUTPUT				
84-12-2112	±12 VDC	120 mA ea.	0.5 mV RMS	1A
84-12-2124	±12 VDC	240 mA ea.	0.5 mV RMS	1B
84-15-2110	±15 VDC	100 mA ea.	0.5 mV RMS	1A
84-15-2120	±15 VDC	200 mA ea.	0.5 mV RMS	1B
84-15-2135	±15 VDC	350 mA ea.	0.5 mV RMS	1C
TRIPLE OUTPUT				
84-15-13115	±5 VDC ±15 VDC	1000 mA ea. 150 mA ea.	1 mV RMS	1C
84-15-53110	±5 VDC ±15 VDC	500 mA ea. 100 mA ea.	1 mV RMS	1B

CASE SIZE 1



CASE SIZE 2



CASE SIZE 3

17 POWER SUPPLIES & CONVERTERS

GL SERIES SINGLE AND MULTI OUTPUT SWITCHERS

Applications

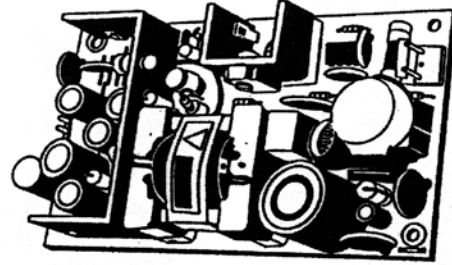
- Personal computers
- Control circuits
- Instrumentation
- Drive Circuits
- CNC machinery

Features

- Automatic overload protection
- Universal input
- Compact size
- On board input fuse
- Automatic overload protection
- OVP on output No. 1
- UL Recognized
- CSA Certified
- IEC 950
- 100% burn-in
- One year warranty
- Power fial signal on 110 and 220 watt models

Specifications Summary

- Universal input voltage of 85 to 264 VAC
- Frequency input from 47 Hz to 440 Hz
- Input fuse protected
- Output ripple is 2% peak to peak maximum
- Operating temperature 0°C to 50°C



Mfr. No.	Outputs								Dimensions (In.)		
	Output 1		Output 2		Output 3		Output 4		L	W	H
	Volts	Amps	Volts	Amps	Volts	Amps	Volt	Amps			
30 Watts Max. Output											
GLS-01-040	5	6	.....	.....	.....	.....	.....	.....	5.00	3.00	1.36
40 Watts Max. Output											
GLS-02-040	12	3.5	.....	.....	.....	.....	.....	.....	5.00	3.00	1.36
GLS-03-040	15	3	.....	.....	.....	.....	.....	.....	5.00	3.00	1.36
GLS-04-040	24	2	.....	.....	.....	.....	.....	.....	5.00	3.00	1.36
GLD-01-040	5	3	12	2	.....	.....	.....	.....	5.00	3.00	1.36
GLD-02-040	5	3	15	2	.....	.....	.....	.....	5.00	3.00	1.36
GLD-03-040	5	3	24	1	.....	.....	.....	.....	5.00	3.00	1.36
GLT-01-040	5	3	12	2	-5	0.3	.....	.....	5.00	3.00	1.36
GLT-02-040	5	3	12	2	-12	0.3	.....	.....	5.00	3.00	1.36
GLT-03-040	5	3	15	2	-15	0.3	.....	.....	5.00	3.00	1.36
GLT-04-040	5	3	15	2	-12	0.3	.....	.....	5.00	3.00	1.36
GLT-05-040	5	3	24	1	-12	0.3	.....	.....	5.00	3.00	1.36
50 Watts Max. Output											
GLS-01-065	5	10	.....	.....	.....	.....	.....	.....	6.00	3.50	1.87
65 Watts Max. Output											
GLS-02-065	12	5.5	.....	.....	.....	.....	.....	.....	6.00	3.50	1.87
GLS-03-065	15	4.5	.....	.....	.....	.....	.....	.....	6.00	3.50	1.87
GLS-04-065	24	3	.....	.....	.....	.....	.....	.....	6.00	3.50	1.87
GLD-01-065	5	6	12	3	.....	.....	.....	.....	6.00	3.50	1.87
GLD-02-065	5	6	15	3	.....	.....	.....	.....	6.00	3.50	1.87
GLD-03-065	5	6	24	2	.....	.....	.....	.....	6.00	3.50	1.87
GLT-01-065	5	6	12	3	-5	0.5	.....	.....	6.00	3.50	1.87
GLT-02-065	5	6	12	3	-12	0.5	.....	.....	6.00	3.50	1.87
GLT-03-065	5	6	15	3	-15	0.5	.....	.....	6.00	3.50	1.87
GLT-04-065	5	6	15	3	-12	0.5	.....	.....	6.00	3.50	1.87
GLT-05-065	5	6	24	2	-12	0.5	.....	.....	6.00	3.50	1.87
GLQ-01-065	5	6	12	3	-12	0.5	-5	0.5	6.00	3.50	1.87
110 Watts* Max. Output											
GLS-01-110	5	22	.....	.....	.....	.....	.....	.....	7.00	4.25	1.95
GLS-02-110	12	9	.....	.....	.....	.....	.....	.....	7.00	4.25	1.95
GLS-03-110	15	7.5	.....	.....	.....	.....	.....	.....	7.00	4.25	1.95
GLS-04-110	24	4.5	.....	.....	.....	.....	.....	.....	7.00	4.25	1.95
GLD-01-110	5	10	12	5	.....	.....	.....	.....	7.00	4.25	1.95
GLT-01-110	5	10	12	3	-12	1	.....	.....	7.00	4.25	1.95
GLT-02-110	5	10	15	4	-15	1	.....	.....	7.00	4.25	1.95
GLQ-01-110	5	10	12	5	-12	1	-5	1	7.00	4.25	1.95
GLQ-02-110	5	10	12	5	-12	1	12	1	7.00	4.25	1.95
GLQ-03-110	5	10	12	5	-12	1	24	1	7.00	4.25	1.95
GLQ-04-110	5	10	15	4	-15	1	-5	1	7.00	4.25	1.95
200 Watts Max. Output											
GLS-01-200	5	40	.....	.....	.....	.....	.....	.....	9.00	5.00	2.65
GLS-02-200	12	16.7	.....	.....	.....	.....	.....	.....	9.00	5.00	2.65
GLS-03-200	15	13.4	.....	.....	.....	.....	.....	.....	9.00	5.00	2.65
GLS-04-200	24	8.4	.....	.....	.....	.....	.....	.....	9.00	5.00	2.65
GLD-01-200	5	30	12	8	.....	.....	.....	.....	9.00	5.00	2.65
GLD-02-200	5	30	15	6	.....	.....	.....	.....	9.00	5.00	2.65
GLD-03-200	5	30	24	4	.....	.....	.....	.....	9.00	5.00	2.65
GLT-01-200	5	30	12	8	-5	6	.....	.....	9.00	5.00	2.65
GLT-02-200	5	30	12	8	-12	4	.....	.....	9.00	5.00	2.65
GLT-03-200	5	30	15	6	-15	4	.....	.....	9.00	5.00	2.65
GLT-04-200	5	30	15	6	-12	4	.....	.....	9.00	5.00	2.65
GLQ-01-200	5	30	12	8	-12	4	5	6	9.00	5.00	2.65
GLQ-02-200	5	30	15	6	-15	4	24	4	9.00	5.00	2.65
GLQ-03-200	5	30	12	8	-12	4	12	4	9.00	5.00	2.65
GLQ-04-200	5	30	12	8	-15	4	15	4	9.00	5.00	2.65
GLQ-05-200	5	30	12	8	-12	4	24	4	9.00	5.00	2.65

* With 25 CMF air flow, 80 watts with convection cooling.

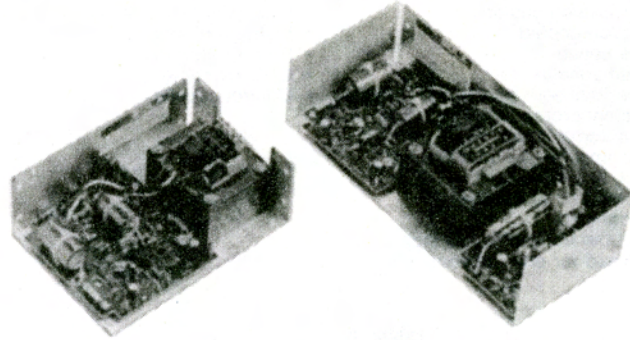
SOLA SILVER LINE LINEARS

FEATURES

- Tight regulation. 0.10% line and load combined
- Full output ratings to 50C
- Built in ovp on 5V models (optional on 12V, 15V, 24V)
- Foldback current limiting
- 100% burn-in
- Warranted for 1 full year
- Form, fit, function replacements for most major manufacturers

SPECIFICATION SUMMARY

- Input AC voltage selectable 100/120/220/230/240
- Input frequency 47 to 440 Hz
- Ripple 3.00mV maximum p-p
- DC output adjustment $\pm 5\%$ minimum
- Operating temperature 0 to +50°C
- EM/RFI meets FCC Class B and VDE 0871 for Class B
- Shock/vibration per MIL-STD-810C



17

POWER SUPPLIES & SEMI-CONDUCTORS

Mfr. No.	Output						Dimensions (In.)		
	Output 1		Output 2		Output 3		L	W	H
	Volts	Amps	Volts	Amps	Volt	Amps			
SLS-05-030-1	5V	3A	.....	.....	.....	.....	4.84	3.99	2.07
SLS-05-060-1	5V	6A	.....	.....	.....	.....	5.62	4.87	2.95
SLS-05-090-1	5V	9A	.....	.....	.....	.....	7.00	4.87	3.30
SLS-05-120-1	5V	12A	.....	.....	.....	.....	9.00	4.87	3.30
SLS-12-017†	12V	1.7A	.....	.....	.....	.....	4.84	3.99	2.07
	or 15V	1.5A	.....	.....	.....	.....
SLS-12-034	12V	3.4A	.....	.....	.....	.....	5.62	4.87	2.95
SLS-12-051	12V	5.1A	.....	.....	.....	.....	7.00	4.87	3.30
SLS-12-068	12V	6.8A	.....	.....	.....	.....	9.00	4.87	3.30
SLS-15-045	15V	4.5A	.....	.....	.....	.....	7.00	4.87	3.30
SLS-15-060	15V	6A	.....	.....	.....	.....	9.00	4.87	3.30
SLS-24-012	24V	1.2A	.....	.....	.....	.....	4.84	3.99	2.07
SLS-24-024	24V	2.4A	.....	.....	.....	.....	5.62	4.87	2.95
SLS-24-036	24V	3.6A	.....	.....	.....	.....	7.00	4.87	3.30
SLS-24-048	24V	4.8A	.....	.....	.....	.....	7.00	4.87	3.30
SLD-12-1010-12	12V	1.0A	-12V	1.0A	.....	.....	6.50	4.00	2.07
	or 15V	0.8A	or -15V	0.8A	.....	.....	
SLD-12-1818-12†	12V	1.8A	-12V	1.8A	.....	.....	7.00	4.87	2.95
	or 15V	1.5A	or -15V	1.5A	.....	.....	
SLD-12-3434-12	12V	3.4A	-12V	3.4A	.....	.....	9.00	4.87	3.30
SLD-15-3030-15	15V	3A	-15V	3A	.....	.....	9.00	4.87	3.30
SLD-12-6034-05	5V	6A	12V	3.4A	.....	.....	9.00	4.87	3.30
SLD-12-3015-05	5V	3A	12V	1.5A	.....	.....	7.00	4.87	2.95
SLT-12-20404-12†	5V	2A	12V	.4A	-12V	.4A	6.50	4.00	2.07
			or 15V	.4A	or -15V	.4A			
SLT-12-31010-12†	5V	3A	12V	1A	-12V	1A	10.25	4.00	2.95
			or 15V	.8A	or -15V	.8A			
SLT-12-61010-12†	5V	6A	12V	1A	-12V	1A	9.00	4.87	3.30
			or 15V	1A	or -15V	1A			
SLT-12-61818-12†	5V	6A	12V	1.8A	-12V	1.8A	11.00	4.87	3.30
			or 15V	1.5A	or -15V	1.5A			
SLT-24-30530-05	5V	3A	-5V	5A	24V	3A	11.00	4.87	3.30
OVERVOLTAGE PROTECTORS (OVP)									
SLO-12-000-1	6.2V to 34V Adjustable at 8A						1.50	1.55	.56

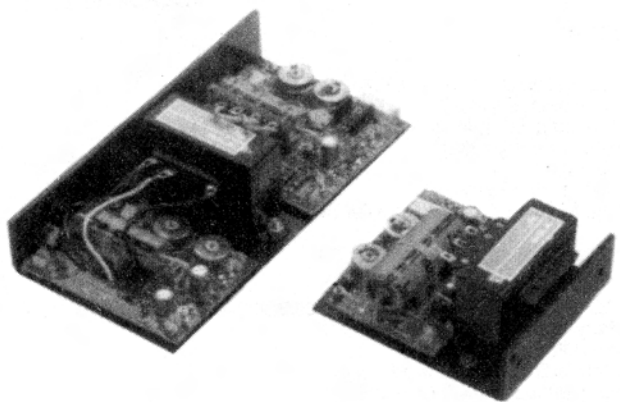
† 12/15 volt models; factory set for 12 volts; field selectable/adjustable to 15 volts.

Features:

- 20 year proven design
- Convection cooled
- Remote sense
- Constant voltage
- Designed for both bench and rack use
- Completely protected short circuit proof; automatic foldback
- Current limiting—automatic reset
- Isolated, floating output
- Low noise and ripple (pard)
- UL recognized
- Split bobbin transformer design
- Warranted for one full year

Applications:

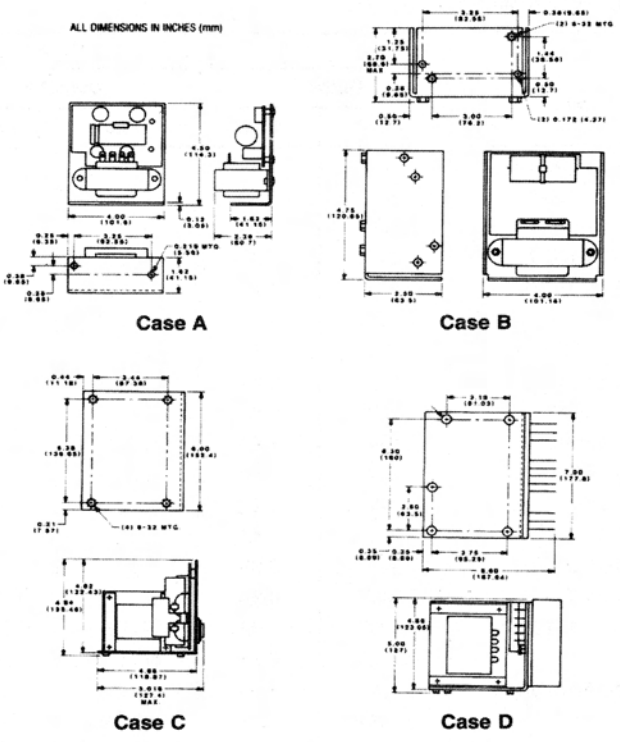
- Microprocessor circuits
- Instrumentation
- Process controls
- CNC machinery
- Control circuits



81 AND 83 SERIES LINEARS

Series regulated DC supplies for bench or rack use in powering computers, data processing, process control, electronic measuring, telemetering and others. Completely protected short-circuit proof with automatic current limiting. Convection cooled. Complete serviceability. Remote sensing. **Input** 104-127 VAC or 208-254 VAC, 50-400 Hz. **Regulation:** $\pm 0.05\%$ line or load. **Ripple:** 10mV rms. **Operating Temperature:** 0°C to $\pm 55^\circ\text{C}$. **Recovery Time:** Less than 50 microseconds. Optional crowbar protection devices are available for this series; ask for pricing and availability.

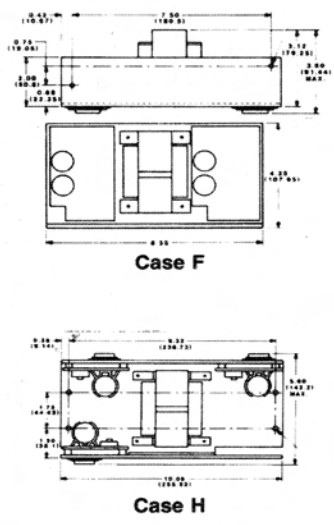
Mfr. No.	Case	Input Voltage	Output		
			Voltage Range	Current Amps	Watts
81-05-230-2	A	115	5	3.0	15
81-12-215-2	A	115	12-15	1.5-1.2	18
81-24-180-2	A	115	24	0.8	43
83-05-230-3	B	115/230	4.8-5.5	3.015	
83-12-218-3	B	115/230	11.5-12.5	1.8	30
83-15-216-3	B	115/230	14.5-15.5	1.6	30
83-24-212-3	B	115/230	23-25	1.2	30
83-05-260-3	C	115/230	4.8-5.5	6.0	30
83-12-250-3	C	115/230	11.5-12.5	5.0	60
83-15-240-3	C	115/230	14.5-15.5	4.0	60
83-24-225-3	C	115/230	23-35	2.560	
83-05-312-3	D	115/230	4.8-5.5	12.0	60
83-12-310-3	D	115/230	11.5-12.5	10.0	120
83-15-280-3	D	115/230	14.5-15.5	8.0	120
83-24-260-3	D	115/230	23-25	6.0	120



SERIES REGULATED POWER SUPPLIES DUAL AND TRIPLE OUTPUTS

Completely interchangeable power supplies with remote sensing and short circuit protection. **Input:** 120/240 VAC $\pm 10\%$, 50-400Hz. **Regulation:** Line and load combined, $\pm 0.1\%$. **Ripple:** 0.01% rms. **Operating Temperature:** 0°C to 50°C. **Recovery Time:** Less than 50 microseconds.

Mfr. No.	Case	Output	
		Volts	Amps
83-15-2216	F	± 15	1.6
83-15-3216	H	± 15	1.6
		± 5	6.0



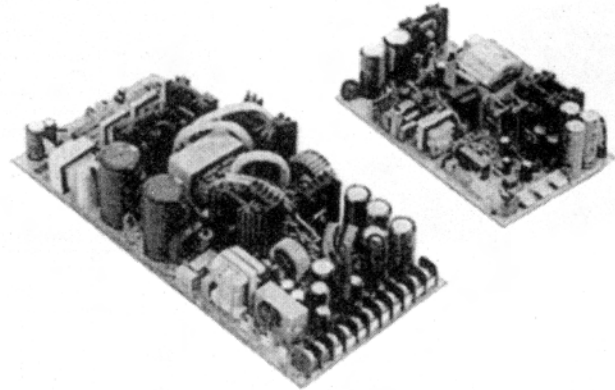
GOLD LINE SWITCHERS

Small, efficient, lightweight low wattage multi output switchers

17 POWER SUPPLIES & CONDITIONERS

APPLICATIONS:

- Instrumentation
- CRT monitors
- Disk drives
- Terminals
- Peripheral equipment
- Testing equipment
- Microprocessor based systems
- CNC machinery



SPECIFICATIONS:

- All units are voltage selectable 90-130VAC/180-260VAC
- AC input frequency -47-440 Hz
- 65% efficiency typical
- Overcurrent protection on all outputs
- 10ms hold uptime at full load
- MTBF greater than 50k hrs. at full load
- Inrush current 40/50 30 amps/115 VAC 60 amps/230 VAC 65/90 10 amps/115 VAC 20 amps/230 VAC all at 25°C ambient cold

FEATURES:

- High efficiency
- Built in EMI filter
- UL recognized
- CSA certified
- VDE
- Industry standard packages
- Meets FCC and VDC class A emissions
- 100% burn-in for 24 hrs.
- Dual input voltage 115/230VAC
- Over voltage protection on +5V outputs
- Short circuit protection

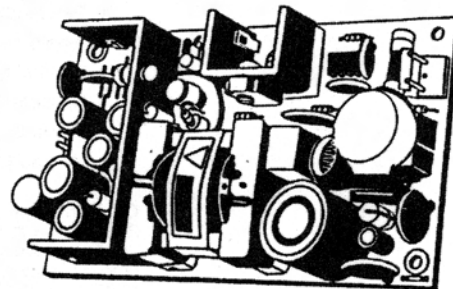
Mfr. No.	Output								Dimensions (In.) Max.		
	Output 1		Output 2		Output 3		Output 4		L	W	H
	Volts	Amps	Volts	Amps	Volts	Amps	Volts	Amps			
50 WATT MODEL											
86-40050-54	5V	5A	-5V	.25A	15V	1A	-15V	1A	5.93	3.83	2.50

SINGLE OUTPUT SWITCHERS

FEATURES

- Single output
- Dual voltage input
- Brownout protection
- Overvoltage protection
- Overcurrent protection
- Remote sensing (except 86-24-310)
- Soft-start
- UL and CSA recognized

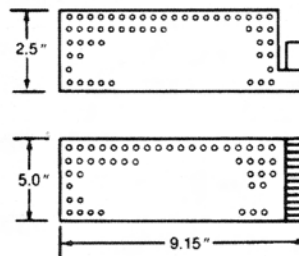
Input Voltage Range: 90-135/180-257 VAC rms. **Input Frequency:** 47-440 Hz. **Soft-Start:** 500 msec maximum for full output. **Max. Input Current:** 4A at 120 VAC 25A at 240 VAC (external fuse required). **Hold-Up Time:** 16 msec at 100 VAC rms input, full load.



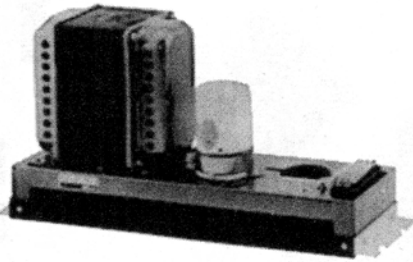
Initial Set Accuracy	±5%	Ripple	50 mV
Adjustment	±.25%	Transient Response	500 µsec
Line Reg.	.25%	Efficiency	Up to 83%
Load Reg.	.25%	Overshoot	2%

Mfr. No.	Output		
	Volts/Amps.	Max. Amp	Watts
86-24-262	24/6.25	8	150
86-24-310	24/10*	11.5	240

* 240 Watt Model is not enclosed



CVDC SERIES CONSTANT VOLTAGE SUPPLIES



Rugged, simple and dependable power supplies in both modular and rack-mount styles. Designed for computers, data processing, industrial solenoid/relay controls, measurements, telemetering and wherever isolation from line fluctuations is required. Units contain a constant voltage transformer, rectifier and filter circuit, and provide tight regulation, high peak current, quick response isolation and current limiting. **Regulation:** $\pm 1\%$ or less for an input variation as much as $\pm 15\%$. **Response Time:** 25 msec. **Efficiency:** Approx. 80-90%. **Ripple:** Less than 1%. **Operating Temperature:** 0°C to +50°C. Units may be connected in series for higher voltage, or in parallel for higher current. Immune to inductive load induced transients/spikes, designed for 19" rack, benchtop or equipment cabinet mounting. 60 Hz models are UL recognized.

RACK-MOUNT STYLE

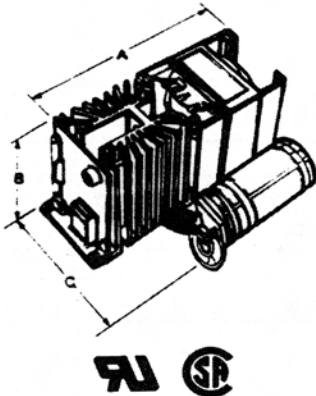
Single phase. Standard 19" rack mount, PARD is 1% of output voltage.

Mfr. No.	DC Output			% Load Regulation		Panel Size (In.)		Mtg. Ctrs. (In.)	Approx. Ship Wt. (Lbs.)
	V	A	VA	20% full load	50% full load	Ht.	Dpth.		
100-130 VA, 60 Hz INPUT SOURCE									
28-1024-1	24	6	145	6	4	5¼	9¾	2¼	30
28-2126-1	24	10	240	6	4	5¼	8¾	2¼	48
28-1203-2	24	15	360	7	5	7	7¼	4	64
28-2127-1	24	25	600	7	5	8¾	9	5¾	70

CVDC FOR TELECOMMUNICATIONS APPLICATIONS

Low output noise level (ripple); 35 dBmC (15mV rms). **Input Source:** 100-130/200-260 VAC, 60 Hz.

Mfr. No.	DC Output			% Load Regulation		Panel Size (In.)		Mtg. Ctrs. (In.)	Approx. Ship Wt. (Lbs.)
	V	A	VA	20% f.l.	50% f.l.	Ht.	Dpth.		
28-2233	48	10	480	5	3	5¼	9¾	2¼	53
28-2234	48	20	960	5	3.5	8¾	9¾	5¾	77



COPPERLINE HIGH POWER ADJUSTABLE DC POWER SUPPLY

Features:

- Selectable 120/140 VAC, 50/60 Hz input
- Single supply for multiple applications
- Parallel operation for increased power output
- Reliable SCR design
- 100% Burn-in
- UL and CSA

Applications:

- Engineering bench supply
- Slot power supply
- Telecommunications
- Manufacturer test applicators
- Automotive product tester

Copperline power supplies provide high current DC that is continuously adjustable over either a 2 to 25 or 5 to 50 volt range. Can be set for constant voltage or constant current operation. Wide voltage range makes these units suitable for many slot supply applications where different supplies would normally be required for each application. In the constant mode, can be used as a battery charger. Adjustable damping for inductive loads enables units to drive relays, solenoids and motors. SCR rectifiers provide precision ($\pm 1\%$) regulation with maximum (75%) efficiency. Series inductance and capacitor filter circuit provide low noise operation over all load and line conditions. AC input 105-130/210-260 VAC 1-phase 47-63 Hz. Controls include current limit adjust 0-100%; output volts adjust 10-100%; ripple adjust.

Mfr. No.	Power (Watts)	Dimensions (In.)			DC Output	
		A	B	C	Volts	Amps
39-407	300	11.00	6.75	7.66	5-50/2-25	6/12
39-408	600	12.00	6.75	7.66	5-50/2-25	12/24
39-409	1200	14.00	10.00	11.12	5-50/2-25	24/48