

FEATURES

- 7 watts per cubic inch
- 75-80 % typical efficiency
- 1U high – narrow profile
- Power Factor Corrected
- EN61000-3-2 compliant
- Universal Input
- UL, CSA, TÜV (IEC, EN), CB
- FCC, CISPR Class B EMI
- IEC, EN Immunity
- **All output modules:**
 - Adjustable
 - Fully regulated
 - Floating
 - Overload & short circuit protected
 - Overvoltage protected
 - Reverse voltage protected
- **Standard features include:**
 - Thermal shutdown
 - Power fail monitor
 - DC Good Signal
 - Inhibit capability
 - Fan output
 - Isolated pilot bias
- **Options and Accessories include:**
 - Or-ing diodes for redundancy
 - Hot-Pluggable capability
 - End fan cover
 - 1U high racking system



DESCRIPTION

G Series is a line of 1U high 300-500 watt single and multiple output switching power supplies. Designed using an advanced high efficiency topology coupled with an innovative packaging concept, G Series supplies offer outstanding flexibility and reliable power at a very competitive price. Units are designed to be compatible for powering virtually every type of system including telecom, datacom as well as the most demanding industrial controls and test equipment.

Choose from stocked modules to configure a unit to meet your specific needs. Completed models are available for shipment in days enabling rapid product development and shorter time to market.

All combinations of models meet international safety and emissions requirements and carry a full two-year warranty. Models are available for use as either integral system power or as part of a hot-pluggable rack mounted redundant system.

SINGLE OUTPUT

Max Power	Output	Model
300W	1.8V @ 60A	G1.8-60-YY
300W	2.5V @ 60A	G2.5-60-YY
300W	3.3V @ 60A	G3.3-60-YY
300W	5V @ 60A	G5-60-YY
300W	12V @ 25A	G12-25-YY
300W	24V @ 13A	G24-13-YY
300W	48V @ 6.3A	G48-6.3-YY
500W	12V @ 42A	G12-42-YY
500W	24V @ 21A	G24-21-YY
500W	48V @ 10.5A	G48-10.5-YY

TYPICAL MULTIPLE OUTPUT MODELS

Max Power	Output 1	Output 2	Output 3	Output 4	Model
300	5V @ 30A	3.3V @ 20A	12V @ 2A	12V @ 2A	G41A-GFT-YY
300	5V @ 30A	12V @ 8.3A	3.3V @ 4A	5V @ 4A	G41A-GJQ-YY
300	24V @ 6.3A	5V @ 20A	12V @ 8.3A		G32A-LGJ-YY
300	48V @ 3A	12V @ 8.3A	5V @ 4A	12V @ 2A	G41A-PJR-YY
500	5V @ 50A	3.3V @ 30A	12V @ 4A	12V @ 4A	G41B-GFT-YY
500	5V @ 50A	12V @ 12A	3.3V @ 8A	5V @ 8A	G41B-GJQ-YY
500	24V @ 10A	5V @ 30A	12V @ 12A		G32B-LGJ-YY
500	48V @ 5.2A	12V @ 12A	5V @ 8A	12V @ 4A	G41B-PJR-YY

U.S. Patent 09/255,898 and others pending.

MODEL SELECTION

G Series models are available in power ratings of 300 and 500 watts. Single output models are listed on the preceding page. For multiple output models, the table below shows the unit power corresponding power ratings and power codes.

Multiple output modules are available in three types: Main (M1,M2), Auxiliary (A1,A2) and Dual Auxiliary (D1,D2). The M1, A1 and D1 are for 300 watt models and have nominal power ratings of 150, 100 and 50 watts respectively. The M2, A2 and D2 are for 500 watt models and have nominal power ratings of 250, 150 and 100 watts, respectively. Refer to the Configurations Table and Top View diagram for allowable combinations.

To form a model number, choose the power rating, the configuration, and the codes corresponding to the required output modules. To complete the model number, specify any options that are needed (or none) by adding the sum of the corresponding codes from the Options table. An example model number is provided as a guide.

POWER RATING

Power Code	Unit Power Rating
A	300
B	500

When operated from 90VAC to 85VAC derate output power linearly to 90%.

CONFIGURATIONS

Code	300 Watt Models			500 Watt Models		
	Main	Aux	Aux	Main	Aux	Aux
21	M1	A1		M2	A2	
31	M1	D1		M2	D2	
32	M1	A1	A1	M2	A2	A2
41	M1	A1	D1	M2	A2	D2
51	M1	D1	D1	M2	D2	D2

OUTPUT MODULES

Single Output Modules

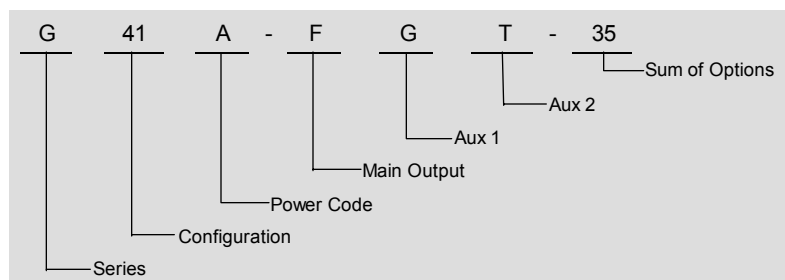
Code	Volts	M1 Amps	A1 Amps	M2 Amps	A2 Amps	Stocked Modules
A	1.8	30	20	50	30	x
B	2	30	20	50	30	
C	2.2	30	20	50	30	
D	2.5	30	20	50	30	x
E	3	30	20	50	30	
F	3.3	30	20	50	30	x
G	5	30	20	50	30	x
H	6	25	17	42	25	
J	12	12	8.3	21	12	x
K	15	10	6.7	17	10	
L	24	6.3	4.2	10	6.3	x
M	36	4.2	2.8	6.9	4.2	
N	42	3.6	2.4	6.0	3.6	
P	48	3.1	2.1	5.2	3.1	x

Dual Output Auxiliary Modules

Code	Volts V1 / V2	D1 Amps	D2 Amps	Stocked Modules
Q	3.3/5	4/4	8/8	
R	5/12	4/2	8/4	x
S	12/24	2/1	4/2	x
T	12/12	2/2	4/4	x
U	24/24	1/1	2/2	

MODEL NUMBER EXAMPLE

Code	Description
G	Series
41	Configuration
A	300 Watts power
F	3.3 VDC @ 30 Amps
G	5 VDC @ 20 Amps
T	Dual output 12/12 VDC @ 2/2 Amps
35	Sum of Options: 01 Or-ing Diodes 02 Hot-Pluggable + 32 End fan cooled 35

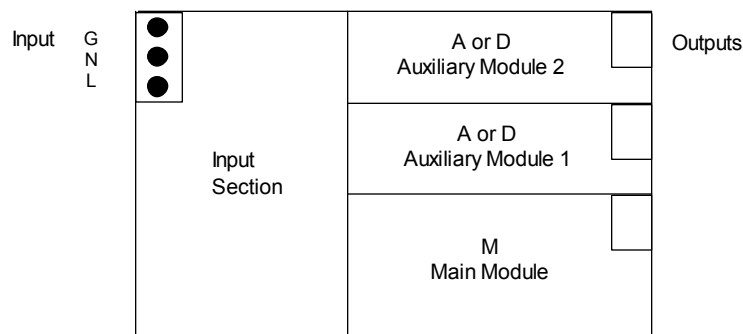


OPTIONS

Option Code	Function
00	None
01	Or-ing Diodes
02	Hot Pluggable
32	End Fan Cover

Replace the YY with the sum of the Option Codes above.

G SERIES MODULES – TOP VIEW



U.S. Patent 09/255,898 and others pending.



G SERIES SPECIFICATIONS

AC INPUT

85-264 VAC, 47-63Hz. 90 VAC to 85 VAC derate output power linearly to 90%.

POWER FACTOR

0.95 typical.

EMISSIONS

EN 55022/CISPR 22, Class B Conducted. EN61000-3-2, Harmonics. EN 61000-3-3, Voltage Fluctuations.

IMMUNITY

EN61000-4-2, Level 3 Electrostatic Discharge. EN61000-4-3, Level 3 Radiated Field. EN 61000-4-4 Level 3 Electrical Fast Transients. EN 61000-4-5, Level 3 Surge. EN 61000-4-6, Level 3 Conducted Field.

INPUT SURGE

230 VAC - 50 amps max.
115 VAC - 25 amps max.

EFFICIENCY

75-80% typical.

HOLDUP TIME

20 milliseconds from loss of AC power.

OUTPUTS

See table of models. Outputs are trim adjustable $\pm 5\%$.

OUTPUT POLARITY

All outputs are floating from chassis.

LINE REGULATION

Less than 0.2% for full line change.

LOAD REGULATION

Less than 1% or 40mv for full load change. When droop current share is used on dual output modules, load regulation is 3%.

MINIMUM LOAD

None required.

RIPPLE & NOISE

1% or 50mV pk-pk, whichever is greater, 20MHz bandwidth.

OPERATING TEMPERATURE

0-70°C. Derate 2.5%/°C above 50°C.

COOLING

A minimum of 5 LFS* is required, directed through the unit for full rating. See optional fan covers. *Linear feet per second.

TEMPERATURE COEFFICIENT

0.02%/°C typical.

DYNAMIC RESPONSE

Peak transient less than $\pm 2\%$ or $\pm 100\text{mv}$ for a step load change from 75% to 50% or 100% max. Outputs recover within 300 microseconds.

SAFETY

Units meet UL 1950/60 950, CSA 22.2 No. 60950-00, EN 60 950. CB test report.

ISOLATION

Conforms to safety agency standards.

INPUT UNDERVOLTAGE

Protects against damage from under voltage operation.

SOFT START

Units have soft start feature to protect critical components.

OVER VOLTAGE PROTECTION

Standard on all outputs. Latching action.

REVERSE VOLTAGE PROTECTION

All outputs are protected up to 100% load ratings.

OVERLOAD PROTECTION

Outputs are current limited with automatic recovery when overload is removed.

CURRENT SHARE

Single wire current share on single output modules. Droop current share on dual output modules.

THERMAL SHUTDOWN

Circuit cuts off supply in case of local over temperature. Unit resets automatically when temperature returns to normal.

POWER FAIL MONITOR

Standard circuit provides TTL ACFAIL signal providing 4 millisecond warning before main output drops by 5% after an input failure.

DC GOOD

Standard circuit provides an energized open collector when any output is at least 90% of nominal value.

INHIBIT

Global TTL compatible system inhibit provided.

FAN OUTPUT

Nominal 12 VDC @ 8 watts maximum.

ISOLATED PILOT BIAS

5 VDC @ 0.25 Amps.

REMOTE SENSING

Standard on all single output modules.

SHOCK & VIBRATION

Shock per MIL-STD 810-E 516.4, Category 1, Procedure 1. Vibration per MIL-STD 810E Method 514.4, Category 1, Procedure 1.

MECHANICAL

CASE WATTS H x W x L

A 300 1.58" x 5.00" x 7.00"

B 500 1.58" x 5.00" x 9.00"

CONNECTIONS

Input Header: 0.312 grid.

Outputs: Screw clamp terminal blocks.

Signal Headers: 0.1 inch grid.

Mating connectors provided.

WARRANTY

Deltron 2 year Standard Warranty on parts and labor applies.

OPTIONS

OR-ING DIODES (01)

Redundant operation with either Schottky diode for higher voltage outputs or ultra low drop N channel Or-ing circuit in low voltage models.

HOT-PLUGGABLE (02)

Combined with Option 01 provides hot swapping redundant operation. Uses Positronic PCI connector. For multiple output units, adds 1.9 " to length. For singles, unit length remains the same.

END FAN COVER (32)

Optional cover with brushless DC ball bearing end fans provides the required airflow for full rating. For non-hot-pluggable models, the cover includes an IEC input connector. The end fan cover fits in 1.75" 1U rack height. It increases unit length by 1.38".

ACCESSORIES

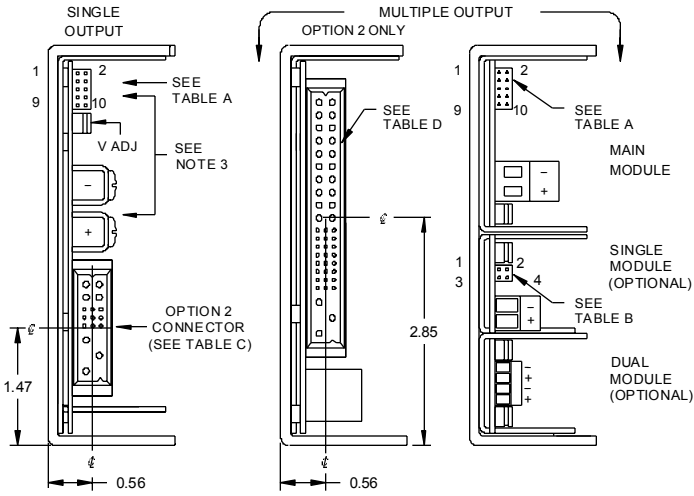
RACKING SYSTEM

The RA50A 1U high, 19" wide racking system is available for paralleling or N+1 redundant systems. The 1.75" H x 12.0" D rack accommodates up to three G Series power supplies providing up to 1500 watts. Racks include a top cover for added strength and protection.

Specifications subject to change without notice.



G SERIES DIMENSIONS



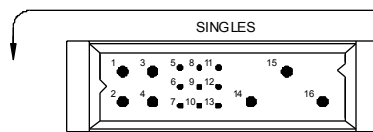
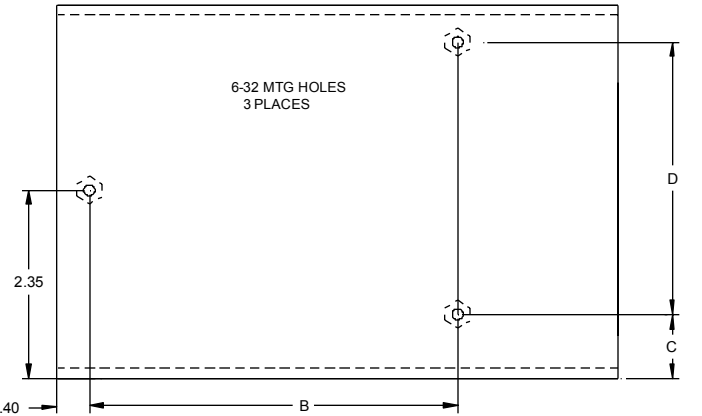
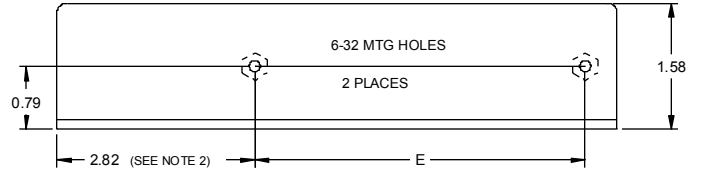
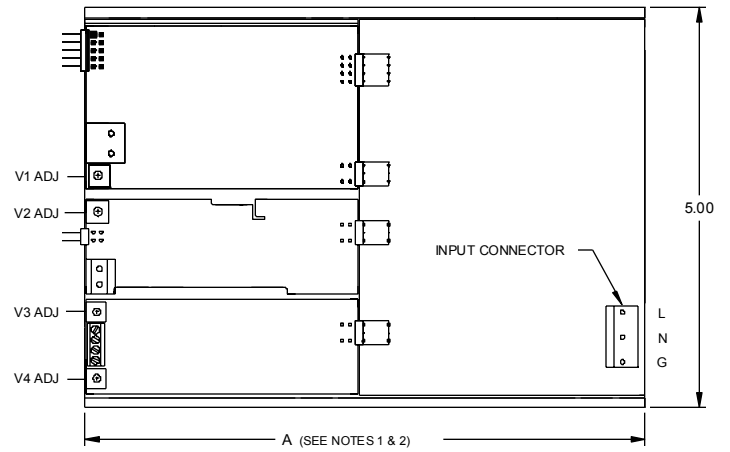
NOTES:

- END FAN COVER OPTION ADDS 1.38" TO LENGTH. FOR NON HOT-PLUGGABLE MODELS, COVER INCLUDES AN IEC 320 INPUT CONNECTOR.
- HOT-PLUGGABLE OPTION 02 ADDS 1.9" TO LENGTH FOR MULTIPLE OUTPUT UNITS. FOR SINGLES, LENGTH REMAINS THE SAME. SEE TABLES C AND D FOR PIN OUTS.
- FIELD TERMINALS NOT INCLUDED WHEN OPTION 2 IS SPECIFIED.
- ALL MOUNTING HOLES (#6-32). MAX PENETRATION 0.062".
- INPUT AND CONTROL SIGNAL MATING CONNECTORS ARE PROVIDED.
- ALL DIMENSIONS ARE IN INCHES.

PIN	FUNCTION	PIN	FUNCTION
1	S+	6	DC GOOD
2	S-	7	PILOT BIAS+
3	I SHARE	8	PILOT BIAS-
4	INHIBIT	9	V-
5	PWR FAIL	10	ENABLE

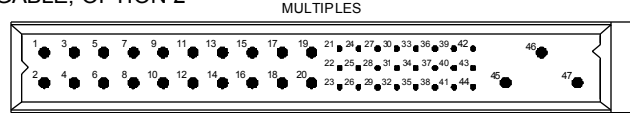
PIN	FUNCTION
1	S-
2	DC GOOD
3	I SHARE
4	S+

DIM	CASE	
	1 300W	2 500W
A	7.00	9.00
B	4.60	6.35
C	0.80	1.00
D	3.40	3.00
E	3.78	5.18



POSITRONIC PCIC16W7M400A1.
POSITRONIC MATE REQUIRED
OR ORDER DELTRON LC-1 KIT.

HOT PLUGGABLE, OPTION 2



POSITRONIC PCIH47M400A1.
POSITRONIC MATE REQUIRED.

PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION
1	V1+	7	S-	13	I SHARE
2	V1+	8	INHIBIT	14	GROUND
3	V1-	9	PILOT BIAS+	15	NEUTRAL
4	V1-	10	PILOT BIAS-	16	LINE
5	ENABLE	11	DC GOOD		
6	S+	12	PWR FAIL		

PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION
1	V1+	9	V2-	17	V3+	25	NC	33	S2+	41	V2 I SHARE
2	V1+	10	V2-	18	V3+	26	NC	34	S1-	42	PWR FAIL
3	V1+	11	V3-	19	V4+	27	ENABLE	35	V1 I SHARE	43	V3 DC-GOOD
4	V1+	12	V3-	20	V5+	28	NC	36	S3+	44	V3 I SHARE
5	V1-	13	V2+	21	PILOT BIAS+	29	NC	37	V2 DC GOOD	45	GROUND
6	V1-	14	V2+	22	PILOT BIAS-	30	S1+	38	NC	46	NEUTRAL
7	V1-	15	V4-	23	V1 DC GOOD	31	NC	39	INHIBIT	47	LINE
8	V1-	16	V5-	24	NC	32	S2-	40	NC		