DESCRIPTION

PRODUCT COVERED:

Component - Switching Power Supplies, For Use in Medical Equipment, Professional; Models GPM40A, GPM40B, GPM40D, GPM40-3.3, -5, -9, -12, -15, -24, -28 , may be followed by an optional suffix "G" **which represents compliance with RoHS. May be followed by suffix -XXX where XXX are numeric characters 000-999 which represent model differences not related to safety.**

ELECTRICAL RATINGS:

Input: 100-240 V ac, 50/60 Hz, 1.3 A,
Output:

Model	V1	A1	V2	A2	V3	A3	V4	A4
GPM40A	12	2	5.1	4	-12	0.4	-	-
GPM40B	15	2	5.1	4	-15	0.4	-	-
GPM40D	24	1	5.1	4	-12	0.4	-	-
GPM40-3.3	3.3	8	-	-	-	-	-	-
GPM40-5	5	8	-	-	-	-	-	-
GPM40-9	9	4.4	-	-	-	-	-	-
GPM40-12	12	3.4	-	-	-	-	-	-
GPM40-15	15	2.7	-	-	-	-	-	-
GPM40-24	24	1.7	-	-	-	-	-	-
GPM40-28	28	1.5	-	-	-	-	-	-

*3. The Temperature Test was performed at an ambient of 50°C. Consideration should be given to measuring the temperature on power electronic components and transformer windings when the power supply is installed in the end-use equipment. **Inductor (T1) complies** with **min 130°C limit. Transformer (T3) complies with Class 155 (F) limit.**

4. The input and output connectors are not acceptable for field connections, they are only intended for connection to mating connectors of internal wiring inside the end-use machine. The acceptability of these in the mating connectors relative to secureness, insulation materials, and temperature shall be considered.

5. The end-use product shall ensure that a fuse warning marking is provided adjacent to the primary fuse (F1). The marking shall include the following wording: "WARNING - For Continued Protection Against Risk Of Fire, Replace Only With The Same Type And Ratings Of Fuse" and the fuse ratings. The minimum letter height 7/64 in.

6. The power supply should be properly bonded to ground in the end-use product.

7. Deleted

8. Deleted

9. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).

10. Leakage current testing should be repeated in the end product application.

11. The power supplies were evaluated as Reinforced insulation between primary and secondary; basic insulation between primary to ground; and operational insulation only between secondary to ground.

12. The power supplies have been evaluated as Class I, continuous operation, ordinary equipment and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide.

13. Fusing in the end product shall be considered since only one fuse rated 2A, 250 V is provided in the hot side of the input supply circuit.

14. The power supplies, under normal and single fault conditions, the outputs do not exceed 25 V ac or 60 V dc.

15. Power supply shall be installed within an appliance employing an enclosure having openings limited as follows: The projected area of any opening in the top, back, sides or front of the enclosure of the overall appliance, onto a plane perpendicular to a line passing through the center of the opening and any point on the central axis of the component, does not exceed 0.20 in^2 (1.3 cm^2) unless the minor dimension of the projected area is not more than 3/8 in. (9.5 mm).

Printed Wiring Boards - Unless otherwise specified, all boards are R/C (ZPMV2), suitable for the solder time and temperature used by the manufacturer, and having a minimum flame rating of 94V-2 and an operating temperature rating of at least 130°C. See Section General, Printed Wiring Boards.

* Trace Layout - The Field Representative shall insure that the trace layouts have not changed, see ILLS. 1 **and** 1A.

Corrosion Protection - Parts are of corrosion resistant material or plated or painted as corrosion protection.

Circuit Designation - (SEC) denotes circuitry supplied from the secondary of an isolating type transformer where the power available is less than 15 W.

Tolerances - Unless specified otherwise, all indicated dimensions are nominal.

Model Differences - Models GPM40A, GPM40B, GPM40D are identical, except for secondary component values and output ratings.

Models GPM40-3.3, -9, -12, -15, -24, -28 are single output power supplies and are identical, except for secondary component values and output ratings.

All models with the suffix "G" are identical to their base models with exception to the manufacturer's declaration of compliance to the RoHS directive - Compliance with the RoHS directive has not been evaluated by UL.

Insulation - All insulation between chassis and components is mica, minimum 0.05 mm thick, and extends minimum 4 mm beyond component live bodies for mains connected components.

CSA INTERNATIONAL

Certificate of Compliance

Certificate: 1747735 (LR 46516-128C) **Master Contract:** 150684

Project: 1747735 **Date Issued:** 2006/01/30

Issued to: **Condor D.C. Power Supplies Inc.**

2311 Statham Pky
Oxnard, CA 93033
USA
Attention: Mr. Ross Sacolles

The products listed below are eligible to bear the CSA Mark shown

Issued by: Eugen Velea, MASc. E.Eng.

Authorized by: Shane Stevenson, Product Group Manager

PRODUCTS

CLASS 5311 07 - POWER SUPPLIES - Component Type - (CSA 60950-1-03)
CLASS 5311 20 - POWER SUPPLIES - Component Type - For Use in Medical Equipment

CLASS 5311 07 - POWER SUPPLIES - Component Power supplies for use in other equipment where the acceptability of the combination is to be determined by CSA International.

Model Numbers:

GPC40A, GPC40B, GPC40D, and GPC40-X, where X represents the output voltage, which may be any number from 3.3 through 28. Models may or may not be followed by suffix –XXX and/or G, where XXX may be any number from 001 thru 999. The –XXX suffix are used for value added configurations that have no impact on safety and suffix G indicates compliance to RoHS (lead-free).

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CSA INTERNATIONAL

Certificate: 1747735 (LR 46516-128C) **Master Contract:** 150684

Project: 1747735 **Date Issued:** 2006/01/30

Ratings:

Input: 100-240 V ac, 1.3 A, 50/60 Hz

Outputs: (L3M1) 40 W max or see table for standard output voltage models.

Model	Watts(1)	Output 1	Output 2	Output 3
GPC40A	40	+5.1 V dc 4 A	+12 V dc 2 A	-12 V dc 0.4 A
GPC40B	40	+5.1 V dc 4 A	+15 V dc 2 A	-15 V dc 0.4 A
GPC40D	40	+5.1 V dc 4 A	+24 V dc 1 A	-12 V dc 0.4 A
GPC40-3.3	26.4	+3.3 V dc 8 A		
GPC40-5	40	+5.0 V dc 8 A		
GPC40-9	40	+9.0 V dc 4.4 A		
GPC40-12	40	+12.0 V dc 3.4 A		
GPC40-15	40	+15.0 V dc 2.7 A		
GPC40-24	40	+24.0 V dc 1.7 A		
GPC40-28	40	+28.0 V dc 1.5 A		

Notes

1. Maximum ambient temperature for rated total output power is 50 °C.

2. Maximum Operating Relative Humidity 96 %, no condensation.

3. Storage: -40 to +85 °C. Units should be allowed to warm-up under non-condensing conditions before application of power.

CLASS 5311 20 - POWER SUPPLIES - Component power supplies for use in medical equipment where the suitability of the combination is to be determined by CSA International.

Model Numbers:

GPM40A, GPM40B, GPM40D, MSP1524, and GPM40-X, where X represents the output voltage, which may be any number from 3.3 through 28. Models may or may not be followed by suffix –XXX and/or G, where XXX may be any number from 001 thru 999. The –XXX suffix are used for value added configurations that have no impact on safety and suffix G indicates compliance to RoHS (lead-free).

CSA INTERNATIONAL

Certificate: 1747735 (LR 46516-128C) **Master Contract:** 150684

Project: 1747735 **Date Issued:** 2006/01/30

Ratings:

Input: 100-240 V ac, 1.3 A, 50/60 Hz

Outputs: (L3M1) 40 W max or see table for standard output voltage models.

Model	Watts(1)	Output 1	Output 2	Output 3
GPM40A	40	+5.1 V dc 4 A	+12 V dc 2 A	-12 V dc 0.4 A
GPM40B	40	+5.1 V dc 4 A	+15 V dc 2 A	-15 V dc 0.4 A
GPM40D	40	+5.1 V dc 4 A	+24 V dc 1 A	-12 V dc 0.4 A
GPM40-3.3	26.4	+3.3 V dc 8 A		
GPM40-5	40	+5.0 V dc 8 A		
GPM40-9	40	+9.0 V dc 4.4 A		
GPM40-12	40	+12.0 V dc 3.4 A		
GPM40-15	40	+15.0 V dc 2.7 A		
GPM40-24	40	+24.0 V dc 1.7 A		
GPM40-28	40	+28.0 V dc 1.5 A		
MSP1524	40	+24.0 V dc 1.7 A		

Notes

1. Maximum ambient temperature for rated total output power is 50 °C.

2. Maximum Operating Relative Humidity 96 %, no condensation.

3. Storage: -40 to +85 °C. Units should be allowed to warm-up under non-condensing conditions before application of power.

4. All outputs are intended for Signal Output and Intermediate Circuits only. The output is not acceptable for patient connection without additional isolation.

5. The outputs are SELV during normal and single fault conditions.

6. The isolation voltage from primary to secondary is 4000 V ac. The creepage distance between primary and secondary circuits is 8 mm minimum.

7. External overcurrent protection on the Neutral side of the line is required.

APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No 60950-1-03 Safety of Information Technology Equipment, Part 1: General Requirements

CAN/CSA-C22.2 No. 601.1-M90 Medical Electrical Equipment, Part 1: General Requirements for Safety

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Product Service

CERTIFICATE

No. B 07 03 59743 029

Holder of Certificate: **SL Power Electronics, Corp.**

CONDOR

6050 King Drive Bldg A
Ventura CA 93003
USA

Production Facility(ies): 16784, 52962

Certification Mark:

Product: **Medical power supplies**
Power supply for medical equipment

Model(s): **GPM40X-YYY G Series where X is Alpha Character A, B or D which represents an output Voltage configuration, –YYY is any numeric characters 000-999 which represent Value Added Options not related to Safety and G indicates compliance to RoHS.**
GPM40-X-YYY G Series where X is any Numeric Character 3.3 to 28 which represents the Output Voltage, –YYY is any numeric characters 000-999 which represent Value Added Options not related to Safety and G indicates compliance to RoHS.

Parameters:

Rated Input Voltage:	100-240 Vac
Rated Frequency:	50 / 60 Hz
Rated Input Current:	1.3 A
Rated DC Outputs:	See attachment
Protection Class:	I

See attachment for Conditions of Acceptability.

Tested according to: EN 60601-1/A13:1996

The product was tested on a voluntary basis and complies with the following essential requirements. The certification mark shown above can be affixed on the product. The certification mark must not be altered in any way. See also notes overleaf.

Test report no.: SI700003-102

Date, 2007-03-06

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Product Service

ATTACHMENT TO CERTIFICATE NO. B 07 03 59743 029 FOR SL POWER ELECTRONICS, CORP.

AC/DC SWITCHING POWER SUPPLIES

MODEL NUMBERS: GPM40X-YYY G Series where X is Alpha Character A, B or D which represents an output Voltage configuration, –YYY is any numeric characters 000-999 which represent Value Added Options not related to Safety and G indicates compliance to RoHS.

GPM40-X-YYY G Series where X is any Numeric Character 3.3 to 28 which represents the Output Voltage, –YYY is any numeric characters 000-999 which represent Value Added Options not related to Safety and G indicates compliance to RoHS.

RATINGS:
Input: 100-240 V ac, 1.3 A, 50/60Hz
Outputs: 40 W max or see table for standard output voltage models.

Model	Watts[1]	Output #1	Output #2	Output #3
GPM40A	40	+5.1 V dc 4 A	+12 V dc 2 A	-12 V dc 0.4 A
GPM40B	40	+5.1 V dc 4 A	+15 V dc 2 A	-15 V dc 0.4 A
GPM40D	40	+5.1 V dc 4 A	+24 V dc 1 A	-12 V dc 0.4 A
GPM40-3.3	26.4	3.3 V dc 8 A		
GPM40-5	40	5.0 V dc 8 A		
GPM40-9	40	9.0 V dc 4.4 A		
GPM40-12	40	12.0 V dc 3.4 A		
GPM40-15	40	15.0 V dc 2.7 A		
GPM40-24	40	24.0 V dc 1.7 A		
GPM40-28	40	28.0 V dc 1.5 A		

Notes:
1. Maximum continuous output power at 50 °C - Total of all Outputs.
2. Maximum Relative Humidity 96 %, no condensation.
3. Storage: -40 to +85 °C. Units should be allowed to warm-up under non-condensing conditions before application of power.

CLASSIFICATION: (In accordance with sub- clause 5 of EN 60601-1)

(5.1) Protection against electric shock = Class I
(5.2) Degree of protection against electric shock = Not acceptable for applied part without additional isolation (contact factory for details)
(5.3) Protection against harmful ingress of water = Ordinary (no protection)
(5.5) Have not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide. This evaluation is to be made on the end equipment by the OEM.
(5.6) Mode of operation = Continuous

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