

DESCRIPTION

PRODUCT COVERED:

Component - Switching Power Supplies for use in Medical and Dental Equipment; Models GPM140-5, -12, -13, -15, -24, -28, -30; may be followed by -C, -T, -T1, or -T2; MSP1363, MSP1402.

ELECTRICAL RATING:

Input: Models GPM140 Series, MSP1363, MSP1402
100-240 V ac, 50/60 Hz, 4.0 A

Outputs:

Model	Volts	MAXIMUM OUTPUT AMPS AND WATTS					
		CONVECTION COOLING				FORCED AIR COOLING (1)	
		Without Cover		With Cover		With &	Without Cover
GPM140-5	5	26.0 A	130 W	24.0 A	120 W	32.0 A	160 W
GPM140-12	12	11.7 A	140 W	10.0 A	120 W	13.4 A	160 W
GPM140-13	13	10.8 A	140 W	9.2 A	120 W	12.3 A	160 W
GPM140-15	15	9.3 A	140 W	8.0 A	120 W	10.7 A	160 W
MSP1363	12	11.7 A	140 W	10.0 A	120 W	13.4 A	160 W
GPM140-24	24	5.8 A	149 W	5.8 A	140 W	6.7 A	160 W
GPM140-28	28	5.0 A	140 W	5.0 A	140 W	5.8 A	160 W
GPM140-30	30	4.7 A	140 W	4.7 A	140 W	5.3 A	160 W
MSP 1402	17	8.2 A	140 W	-	-	9.4 A	160 W

(1) Reference the Installation Instructions, ILL. 1.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

For use in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

The products, models GPM140-5, -12, -13, -15, -24, -28, and -30, were evaluated to the Second Edition of the Standard for Medical and Dental Equipment, UL 544; and the First Edition of the Standard For Medical Electrical Equipment, Part 1: General Requirements for Safety, UL 2601-1. An insulation diagram is provided as Ill. 3 and the manufacturer's installation instructions are provided as Ill. 1.

The products, models MSP1363 and MSP1402 were evaluated to the Second Edition of the Standard for Medical and Dental Equipment, UL 544 only.

Conditions of Acceptability - When installed in the end-use equipment, the following are among the considerations to be made:

1. The power supplies, models GPM140-5, -12, -13, -15, -24, -28, and -30, have been judged on the basis of the required spacings in the First Edition of the Standards for Medical Electrical Equipment, Part 1: General Requirements for Safety, UL 2601-1, and the second edition of the Standard for Medical and Dental Equipment, UL 544, which covers the end use product for which the component is designed. The power supplies, models MSP1363 and MSP1402 have been judged on the basis of the required spacings in the Second Edition of the Standard for Medical and Dental Equipment, Professional, UL 544, which covers the end-use product for which the component designed.
2. The device shall be installed in compliance with the enclosure, mounting, spacing, casualty markings and segregation requirements of the end-use application.
3. 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. All transformers comply with Class 155 limits.
4. Input and output connectors, when provided, 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 the mating connectors relative to secureness, insulating 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. The power supply has been evaluated for patient care equipment, but not patient connected.
8. The output circuits have not been evaluated for direct patient connection (Type B, BF or CF).

9. This power supply has been evaluated for use in 25°C ambient. The end use product shall ensure that the airflow and power ratings listed in the electrical ratings output table are not exceeded.
10. Leakage current testing should be repeated in the end product application.
11. The UL 2601 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 UL 2601 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 anaesthetic mixture with air, oxygen, or nitrous oxide.
13. Fusing in the end product shall be considered since only one fuse rated 5 A, 250 V is provided in the hot side of the input supply circuit.
14. For the UL 2601-1 power supplies, under normal and single fault conditions, the outputs do not exceed 25 V ac or 60 V dc.



STATEMENT OF COMPLIANCE

File Number: LR 46516

Date Issued: October 16, 2003

In accordance with the conditions established by the CSA Category Certification Program, the models listed below are eligible to bear the CSA mark.

Issued By: Ross Sacolles
Product Safety Engineer

Signature: *Ross Sacolles*

CLASS

5311-03 - POWER SUPPLIES - Component Type

PRODUCTS

Component power supplies for use with Information Processing and Business Equipment, where the suitability of the combination is to be determined by the Canadian Standards Association.

- Model GPC140-5, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 5 V/32 A; 160 W with 26 cfm airflow; 130 W with convection cooling, 120 W with cover.
- Model GPC140-12, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 12 V/13.4 A; 160 W with 26 cfm airflow; 140 W with convection cooling, 120 W with cover.
- Model GPC140-15, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 15 V/10.7 A; 160 W with 26 cfm airflow; 140 W with convection cooling, 120 W with cover.
- Model GPC140-24 and GPC140-24P0, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 24 V/6.7 A; 160 W with 26 cfm airflow; 140 W with convection cooling, 140 W with cover.
- Model GPC140-28 and SP1382, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 28 V/5.8 A; 160 W with 26 cfm airflow; 140 W with convection cooling, 140 W with cover.

CLASS

5311-20 - POWER SUPPLIES - Component Type

PRODUCTS

Component power supplies for use with Medical Equipment, where the suitability of the combination is to be determined by the Canadian Standards Association.

- Model GPM140-5, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 5 V/32 A; 160 W with 26 cfm airflow; 130 W with convection cooling, 120 W with cover.
- Model GPM140-12, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 12 V/13.4 A; 160 W with 26 cfm airflow; 140 W with convection cooling, 120 W with cover.
- Model GPM140-13, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 13 V/12.3 A; 160 W with 26 cfm airflow; 140 W with convection cooling, 120 W with cover.
- Model GPM140-15, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 15 V/10.7 A; 160 W with 26 cfm airflow; 140 W with convection cooling, 120 W with cover.
- Model GPM140-24, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 24 V/6.7 A; 160 W with 26 cfm airflow; 140 W with convection cooling, 140 W with cover.
- Model GPM140-28, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 28 V/5.8 A; 160 W with 26 cfm airflow; 140 W with convection cooling, 140 W with cover.
- Model GPM140-30, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 30 V/5.3 A; 160 W with 26 cfm airflow; 140 W with convection cooling, 140 W with cover.
- Model MSP1363, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 12 V/13.4 A; 160 W with 26 cfm airflow.
- Model MSP1402, (Level 3), input rated 100-240 V, 50/60 Hz, 4 A; dc output rated 17 V/9.2 A; 160 W with 26 cfm airflow; 140 W with convection cooling.

Notes

1. Maximum ambient temperature for continuous output power of 160 Watts is 50 °C.
2. Model numbers may include the following suffixes:
 - C for cover.
 - T for input and output terminal blocks, -T1 for input terminal block or
 - T2 for output terminal block.

APPLICABLE REQUIREMENTS

CSA Standard C22.2 No. 0-1991:	General Requirements – Canadian Electrical Code, Part II
0.4-M1982:	Bonding and Grounding of Electrical Equipment (Protective Grounding)
234-M90:	Safety of Component Power Supplies
601.1-M90:	Medical Electrical Equipment
TIL CA-08:	Power Supplies for use in Medical Electrical Equipment



CERTIFICATE

No. B 03 10 14549 017

Holder of Certificate: **Condor DC Power Supplies, Inc.**

2311 Statham Parkway
Oxnard, CA 93033
USA

Certification Mark:



Product: **Switching power supply unit**

The product was tested on a voluntary basis and complies with the essential requirements.
The certification mark shown above can be affixed on the product. See also notes overleaf.

Test report no.: SI304187-106



134522

Date, 2003-10-23

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CERTIFICATE
No. B 03 10 14549 017

Model(s): **GPM140-5, GPM140-12, GPM140-13,
GPM140-15, GPM140-24, GPM140-28,
GPM140-30, MSP1363, MSP1402**

Parameters:

Rate Input Voltage:	100 - 240 V AC
Rated Frequency:	50-60 Hz
Rated Input Current:	4.0 A
Rated Output Voltage:	See Attachment
Rated Output Current:	See Attachment
Protection Class:	I

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

Production **16784**
Facility(ies):

A handwritten signature in black ink, appearing to be 'H. J. ...', located below the 'Production Facility(ies):' field.



Attachment to Condor DC Power Supplies Certificate B 03 10 14549 017

For Models: GPM140-5, GPM140-12, GPM140-13,
GPM140-15, GPM140-24, GPM140-28, GPM140-30,
MSP 1363 & MSP 1402

Model	Volts	Maximum Output Amps And Watts		
		Convection Cooling		Forced Air Cooling (1)
		Without Cover	With Cover	With & Without Cover
GPM140-5	5	26.0A 130W	24.0A 120W	32.0A 160W
GPM140-12	12	11.7A 140W	10.0A 120W	13.4A 160W
GPM140-13	13	10.8A 140W	9.20A 120W	12.3A 160W
GPM140-15	15	9.3A 140W	8.0A 120W	10.7A 160W
GPM140-24	24	5.8A 140W	5.8A 140W	6.7A 160W
GPM140-28	28	5.0A 140W	5.0A 140W	5.8A 160W
GPM140-30	30	4.7A 140W	4.7A 140W	5.0A 160W
MSP1363	12	11.7A 140W	10.0A 120W	13.4A 160W
MSP1402	17	8.2A 140W		9.2A 160W

Notes:

1. Minimum airflow for forced air cooling is 26 cfm.
2. Maximum ambient temperature for continuous output power specified above is 50°C.
3. Maximum Relative Humidity 96%, no condensation.
4. Storage: -40C° to +85°C, Units should be allowed to warm up under non-condensing conditions before application of power.
5. Protection against electric shock= Class I
6. Degree of protection against electric shock= Signal output or intermediate.
7. Protection against harmful ingress of water- Ordinary (no protection).
8. Has not been evaluated for use in the presence of a flammable anaesthetic mixture with air, oxygen, or nitrous oxide. This evaluation is made on the end equipment by the OEM.
9. Mode of operation= Continuous.

MHSUSSD/BJA


2003/10/23

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