

IEC SYSTEM FOR CONFORMITY TESTING AND
CERTIFICATION OF ELECTRICAL EQUIPMENT (IECEE)
CB SCHEME

SYSTEME CEI D'ESSAIS DE CONFORMITE ET DE CERTIFICATION
DES EQUIPEMENTS ELECTRIQUES (IECEE)
METHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

Name and address of the applicant
Nom et adresse du demandeur

Name and address of the manufacturer
Nom et adresse du fabricant

Name and address of the factory
Nom et adresse de l'usine

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

Trademark (if any)
Marque de fabrique (si elle existe)

Model / Type Ref.
Ref. de type

Additional information (if necessary)
Information complémentaire (si nécessaire)

A sample of the product was tested and found
to be in conformity with
Un échantillon de ce produit a été essayé et a été
considéré conforme à la

as shown in the Test Report Ref. No.
which forms part of this Certificate
comme indiqué dans le Rapport d'essais numéro
de référence qui constitue partie de ce Certificat

DC Power Supplies

Condor D C Power Supplies Inc.
2311 Statham Pky
Oxnard, CA 93033, USA

Condor D C Power Supplies Inc.
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Oxnard, CA 93033, USA

1. Industrias S L S A de C V, Costa Rica #60, Col Cuahutemoc
Mexicali, Baja California N, Mexico
2. Shanghai Ges Information Technology Co. Ltd
Zhangjiang Hi Tech Park, 668 Li Shi Zhen Rd, 201203 Shanghai, China

GPM55 Single Output: Input: 100-240 V ac, 1.7 A, 50/60 Hz
Output: V1: 5 V dc min., 28 V dc max.; 11 A max., 2 A min. or 55 W max.
GPM55 Multi-Output: Input: 100-240 V ac, 1.7 A, 50/60 Hz
Output: V1: 5 Vdc/6 A, V2: 12 Vdc/3 A to 24 Vdc/1.5 A, V3: -12 Vdc/1 A to +15 Vdc/1 A,
V4: -15 Vdc/1 A to -5 Vdc/1 A, 55 W maximum
Ambient: 50 degree C.

Condor

GPM55-XX, where XX is any number from 5 through 28, representing the output
voltage on the Single Output models, or an Alpha Character, A-F, which represents
various output voltage configurations on the Multiple Output Models. Suffix -C, when
used, indicates optional chassis/cover is provided.

This report comprises 7 enclosures.

PUBLICATION

EDITION

IEC 60601-1 (1988) Second Edition,
with Amendment No. 1 (1991) and No. 2 (1995) with the exception of:
Clause 36, Electromagnetic Compatibility, Clause 48, Biocompatibility and
Clause 52.1, Programmable Electronic Systems Inclusive of CENELEC Common
Modifications. See Test Report for National Differences.

E116994-A18-CB-1

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification

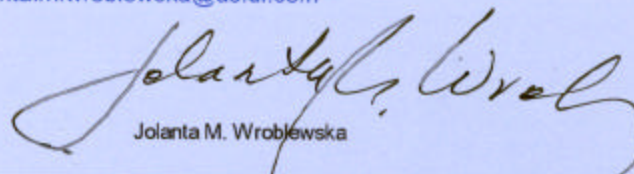


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Date:

Issued: 2005 April 15

Signature:



Jolanta M. Wroblewska

D E S C R I P T I O NPRODUCT COVERED:

Component - Switching Power Supplies For Use in Medical and Dental Equipment, Professional, Models GPM55A, GPM55B, GPM55C, GPM55D, GPM55E, GPM55F, GPM55-5, GPM55-12, GPM55-15, GPM55-24, GPM55-28, MSP1286, MSP1301, MSP1302, MSP1306 and MSP1461. May or may not be followed by FB, TB, or PF.

ELECTRICAL RATINGS:

Input - 100-240 V ac, 47-63 Hz, 80 W

Output -

<u>Model</u>	<u>V1</u>	<u>A1</u>	<u>V2</u>	<u>A2</u>	<u>V3</u>	<u>A3</u>	<u>V4</u>	<u>A4</u>
GPM55A	5	6	12	3	12	1	-12	1
GPM55B	5	6	12	3	-12	1	-5	1
GPM55C	5	6	15	4	-5	1	-15	1
GPM55D	5	6	24	1.5	12	1	-12	1
GPM55E	5	6	24	1.5	15	1	-15	1
GPM55F	5	6	12	3	15	1	-15	1
GPM55-5	5	11						
GPM55-12	12	4.7						
GPM55-15	15	3.7						
GPM55-24	24	2.3						
GPM55-28	28	2						
MSP1301	5	2	12	1.2	-12	0.2	20	2
MSP1286	5	6	15.5	1.5	+15	1	-15	1
MSP1384	5	6	15	4	-5	1	-15	1
MSP1306	5	3	12	1.25	15	0.75	-15	0.25
MSP1461	5	6	12	3	15	1	-15	1

*

*

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

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

The products, models GPM55A, -55B, -55C, -55D, -55E, -55F, GPM55-5, -12, -15, -24, and -28, 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. 5 and the manufacturer's installation instructions are provided as Ill. 6.

The products, models MSP1301, MSP1286, MSP1384, MSP1306, and MSP1461 were evaluated to the Second Edition of the Standard for Medical and Dental Equipment, UL 544 only.

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

1. The power supplies, Models GPM55A, -55B, -55C, -55D, -55E, -55F, GPM55-5, -12, -15, -24, and -28, 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 MSP1301, MSP1286, MSP1384, MSP1306, and MSP1461 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.* 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. All Transformers comply with Class 155 limits.

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. 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. Leakage current testing should be repeated in the end product application.
10. 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.
11. 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.
12. Fusing in the end product shall be considered since only one fuse rated 2.5 A, 250 V is provided in the hot side of the input supply circuit.
13. 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.



Certificate of Compliance

Certificate Number: LR 46516-118C

Revision: LR 46516-241C

Date Issued: August 27, 1996

Issued To: Condor D.C. Power Supplies Inc.
2311 Statham Parkway
Oxnard, CA 93033

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

Issued By: William Giesbrecht, ASCT.
Vancouver, BC, Canada

Signature

PRODUCT 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 GPC55A, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +12 V/3 A, +12 V/1 A, -12 V/1 A; 55 W max total output.

Model GPC55B, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +12 V/3 A, -12 V/1 A, -5 V/1 A; 55 W max total output.

Model GPC55C, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +15 V/3 A, -15 V/1 A, -5 V/1 A; 55 W max total output.

Model GPC55D, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +24 V/1.5 A, +12 V/1 A, -12 V/1 A; 55 W max total output.



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Certificate Number: LR 46516-118C

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Model GPC55E, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +24 V/1.5 A, +15 V/1 A, -15 V/1 A; 55 W max total output.

Model GPC55F, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A, dc outputs rated +5 V/6 A, +12 V/3 A, +15 V/1 A, -15 V/1 A; 55 W max total output.

Model GPC55-5, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/11 A; 55 W max total output.

Model GPC55-12, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +12 V/4.7 A; 55 W max total output.

Model GPC55-15, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +15 V/3.7 A; 55 W max total output.

Model GPC55-24, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +24 V/2.3 A; 55 W max total output.

Model GPC55-28, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc output rated +28 V/2 A, 55 W max total output.

Model GPC55-48, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +48 V/1.5 A; 72 W max total output.

Model SP1394, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5.6 V/5.3 A, +12 V/3 A, -12 V/1 A, -5.2 V/1 A; 55 W max total output.

PRODUCT CLASS

5311 20 - POWER SUPPLIES - Component Type for use with Medical Equipment

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 GPM55A, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +12 V/3 A, +12 V/1 A, -12 V/1 A; 55 W max total output.

Model GPM55B, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +12 V/3 A, -12 V/1 A, -5 V/1 A; 55 W max total output.

Model GPM55C, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +15 V/3 A, -15 V/1 A, -5 V/1 A; 55 W max total output.

Model GPM55D, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +24 V/1.5 A, +12 V/1 A, -12 V/1 A; 55 W max total output.



Certificate of Compliance

Certificate Number: LR 46516-118C

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Model GPM55E, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +24 V/1.5 A, +15 V/1 A, -15 V/1 A; 55 W max total output.

Model GPM55F, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +12 V/3 A, +15 V/1 A, -15 V/1 A; 55 W max total output.

Model GPM55-5, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/11 A; 55 W max total output.

Model GPM55-12, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +12 V/4.7 A; 55 W max total output.

Model GPM55-15, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +15 V/3.7 A; 55 W max total output.

Model GPM55-24, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +24 V/2.3 A; 55 W max total output.


Model GPM55-28, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc output rated +28 V/2 A, 55 W max total output.

Model MSP1384, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +15 V/3 A, -15 V/3 A, -15 V/1 A; 55 W max total output.

Model MSP1306, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/3 A, +12 V/1.25 A, +15 V/0.75 A, -15 V/0.25 A; 45 W max total output.

Model MSP1461, (Level 3), input rated 100-240 V (continuous), 47-63 Hz, 1.7 A; dc outputs rated +5 V/6 A, +12 V/3 A, +15 V/1 A, -15 V/1 A; 55 W max total output.

Notes:

1. Maximum ambient temperature for continuous output power of 55 Watts (72 Watts for GPC55-48) is 50°C.
2. The model designations may be followed by a suffix to indicate the following options:
"-FB" = Flux Band on the Output Transformer
3. Product Class 5311 20 Installation Instructions for the subject Models:
 - 3.1 **GROUNDING:** The Earth (ground)  terminal J1, pin 1 and all of the pads around the mounting holes must be bonded to Safety Earth in the host equipment. Metallic spacers should be used to mount supply to metal surfaces. When mounting to non-metallic surfaces, connect all mounting pads together and bond to earth. Using the earth terminal on the supply for grounding the host equipment is not recommended. A separate dedicated grounding point should be used.



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- 3.2 **OUTPUTS:** All output commons should be connected to Safety Earth in the end application. The output(s) are intended for safety earthed Signal Input/Signal Output and Intermediate Circuits only. The output(s) are not acceptable for patient connection without additional isolation. All DC outputs are SELV.
- 3.3 **ISOLATION:** The isolation voltage from primary to secondary is 4000 VAC. The creepage distance between primary and secondary circuits is 8 mm minimum. The required creepage and clearance distances from primary circuits to ground and secondary circuits must be maintained after installation to preserve the intended safety.
- 3.4 **OVERCURRENT PROTECTION:** The internal fuse is located in the phase lead only. EN 60601-1 requires that both supply leads (phase and neutral) be protected against overcurrent. Complete overcurrent protection must be provided in the host equipment. Fuse ratings must not exceed that specified for the internal fuse, must meet the requirements of EN 60601-1 and be acceptable for the country in which the host equipment is to be installed.

APPLICABLE REQUIREMENTS

- | | | |
|------------------------|---|---|
| CAN/CSA-C22.2 No 0-M91 | - | General Requirement - 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, Part 1: General Requirements for Safety |

Certificate

No: B 96 08 14549 098



Condor DC Power Supplies Inc.

2311 Statham Pkwy.
Oxnard, CA 93033
USA

with production facilities
16784

is authorized to label the following products with the
certification mark E
as shown in the certification mark list. See also notes overleaf.

Product: Schaltnetzteile
Switching power supply unit

Model: GPM55A, GPM55B, GPM55C, GPM55D, GPM55E, GPM55-5,
GPM55-12, GPM55-15, GPM55-24, GPM55-28, MSP1306,
MSP1384, GPM55F

Parameters:

Rated Input Voltage:	100 - 240 VAC
Nennspannung	
Rated Frequency:	See Attachment
Nennfrequenz	
Rated Input Current:	3.2A
Nennaufnahme	
Rated Output Voltage:	See Attachment
Ausgangsspannung	
Rated Output Current:	See Attachment
Ausgangsleistung	
Protection Class:	1
Schutzklasse	
Degree of Protection (IP):	IPX0
Schutzart	

For additional information and models see attachment
1.

The product meets the relevant safety requirements and was tested
according to (report no.: S300566402):

EN 60601-1 1990

IEC 601-1: 1988

Released with the above certificate number by the
certification body of TÜV PRODUCT SERVICE GMBH.

R - (B 95 11 14549 081)

Organization unit: SDGMED / GV

Date: 08-30-96



**Attachment 1 for Certificate number B 96 08 14549 098
for Condor DC Power Supplies Inc. Models:
GPM Series**

Inputs: 100 - 240 VAC, 1.7 A, 47 - 63 Hz

Outputs: 55 Watts Maximum Continuous Power - Total of all Outputs

Model	Output #1	I _{sc}	Output #2	I _{sc}	Output #3	I _{sc}	Output #4	I _{sc}
GPM55A	+5VDC 6A	4A	+12VDC 3A	4A	+12VDC 1A	3A	-12VDC 1A	3A
GPM55B	+5VDC 6A	4A	+12VDC 3A	4A	-5VDC 1A	3A	-12VDC 1A	3A
GPM55C	+5VDC 6A	4A	+15VDC 3A	4A	-5VDC 1A	3A	-15VDC 1A	3A
GPM55D	+5VDC 6A	4A	+24VDC 1.5A	2A	+12VDC 1A	3A	-12VDC 1A	3A
GPM55E	+5VDC 6A	4A	+24VDC 1.5A	2A	+15VDC 1A	3A	-15VDC 1A	3A
GPM55F	+5VDC 6A	4A	+12VDC 3A	2A	+15VDC 1A	3A	-15VDC 1A	3A
GPM55-5	5VDC 11A	5A						
GPM55-12	12VDC 4.7A	2A						
GPM55-15	15VDC 3.7A	2A						
GPM55-24	24 VDC 2.3A	1A						
GPM55-28	28VDC 2.0A	1A						

Notes:

1. I_{sc} =Maximum output short circuit current.
2. Maximum ambient temperature for continuous output power of 55W is 50°C.
3. Maximum Relative Humidity 96%, no condensation.


 September 4, 1996





DECLARATION OF CONFORMITY

Application of Council Directive Low Voltage Directive 73/23/EEC

Standard to which Conformity is Declared EN 60950/A2: 1998

Manufacturer's Name Condor DC Power Supplies, Inc.

Manufacturer's Address 2311 Statham Pkwy
Oxnard, CA, USA

Type of Equipment Open Frame Power Supply

Model Number GPM55x where x = A, B, C, D, or E
GPM55-x where x = 5, 12, 15, 24, or 28

The undersigned hereby declare that the equipment specified above conforms to the above Directive and Standard.

Oxnard, CA, USA
08 August 2000


Product Safety Manager