

DESCRIPTION

PRODUCT COVERED:

USR, CNR - Linear Power Supply, Models CP131, CP162, CP379, CP498, CP503, followed by suffix -A. Suffixes after the first hyphen may be replaced by -5XX where X is 0-9. **Model name may be followed by "G" or SXXX or SXXXG indicating non-safety critical options.**

ELECTRICAL RATING:

Model	Input		Hz	Output (dc)		Airflow
	V	A		V	#A/Apk	
CP131	100, 120/220, 230-240	3/1.5	50/60	5 12 or 15 -12 or -15 or -5	8 1.7 or 1.5 1.7 or 1.5 or 0.7	Convection Cooling @50°C
CP162	100, 120/220, 230-240	3/1.5	50/60	5 -5 24	3 0.6 5	125 LFM Cooling @50°C
CP379	100, 120/220, 230-240	3/1.5	50/60	5 -5 or -12 24	6 1.2 3.5/9	Convection Cooling @25°C 200 LFM @50°C
CP379	100, 120/220, 230-240	3/1.5	50/60	5 -5 to -12 24	6 1.2 3.5/9	Convection Cooling @25°C 200 LFM @50°C
CP498	100, 120/220, 230-240	2.5/1.5	50/60	5 12 -12 or -5	6 5/11 0.5 or 0.25	Convection Cooling @50°C
CP503	100, 120/220, 230-240	2.6/1.2	50/60	5 12 -12 or -5 24	6 1 1 2.4	Convection Cooling @25°C 100 LFM @50°C

#Note: At 50 Hz, output current is derated by 10%.

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

Use - For use only in (or with) Applicant's Information Technology Equipment, where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Special Considerations - The following items are considerations that were used when evaluating this product.

* USR/CNR indicates investigation to the U.S. and Canadian (Bi-National) Standard for Safety of Information Technology Equipment, Including Electrical Business Equipment, CAN/CSA C22.2, No. 60950 * UL 60950-1/UL **60950-1, First Edition, dated April 1, 2003.**

The equipment is considered: For building in Class I (earthed), pluggable Type A or B, intended for use on a TN power system.


Conditions of Acceptability - When installed in the end-use equipment, consideration shall be given to the following:

- * 1. This component has been judged on the basis of the required spacings in the Standard for Safety of Information Technology Equipment, Including Electrical Business Equipment, **CAN/CSA C22.2, No. 60950 * UL 60950-1/UL 60950-1, First Edition, dated April 1, 2003**, *Sub-Clause 2.10, which would cover the component itself if submitted for Listing.
2. The products were tested on a 20 A branch circuit. If used on a branch circuit greater than this, additional testing may be necessary.
3. All secondary output circuits for all models are SELV and are not hazardous energy levels, except for the 24 V output of Model CP379-A.
4. The terminals and connectors have not been evaluated for field wiring.
5. The power supply shall be properly bonded to the main protective earthing termination in the end product.
6. Magnetic device (e.g. transformer) T1 employ(s) an (OBJY3) electrical insulation system designated Class B.
7. The equipment has been evaluated for use in Pollution Degree 2 environment.
8. A suitable Electrical and Fire enclosure shall be provided.
9. Abnormal Tests were evaluated with a UL Listed time-delay fuse rated 250 V, 1.5 A for 220, 230 or 240 V operation and 250 V, 3 A for 100 or 120 V operation connected in the ungrounded conductor circuit.

If a fuse other than noted above is used in the end-use product, additional testing may be necessary.
10. Bonding terminals provided on this equipment have not been evaluated as protective earthing terminals.

11. These power supplies have been evaluated for use in 25°C and 50°C ambient in accordance with the manufacturer's specifications. The units were loaded to 100% of normal rated load at 60 Hz, 10% derated at 50 Hz. At 50°C, all models required forced-air cooling to comply with the Heating Test requirements.

<u>Models</u>	<u>Airflow</u>
CP162-A	125
CP379-A	200
CP503-A	100

Product	Linear AC/DC Power Supplies
Applicant	Bel Fuse Inc. 206 Van Vorst St. Jersey City, NJ 07302 USA
Manufacturer	Bel Fuse Inc. 206 Van Vorst St. Jersey City, NJ 07302 USA
Factory	BPS Asia Pacific Electronics (Shenzhen) Co., Ltd. Building# 6, Nanming Road, Gongming Town Huahong Xintong Industrial Park Guangming District, Shenzhen 518108 China <input type="checkbox"/> See next page(s)
Ratings	3.0 A, 100/120 Vac, 50/60 Hz; 1.5 A, 220/240 Vac, 50/60 Hz
Trade mark	 a bel group
Model / Type Ref.	CP131, CP162, CP379
Principal characteristics	Output: see the test report. The model name maybe followed by -A. Suffix after the first hyphen may be replaced by -5XX or -7XX where X is 0-9. Model name may be followed by "G" or SXXX or SXXXG where X is from 0-9, indicating non-safety critical options. <input type="checkbox"/> See next page(s)
A sample of the product was tested and found to be in conformity with	OFF EN 60950-1:2006;A11;A1;A12;A2
Validity	This certificate documents conformity with the standards shown, and also applies as license for use of Nemkos name and certification mark. The certificate and license is valid as long as the applicable conditions are complied with, and provided that any changes to the product are notified to Nemko for acceptance prior to implementation. New standards or amendments to the standards may imply that the product design must be updated and/or that re-testing and re-certification is necessary.
Additional information	<input type="checkbox"/> See next page(s) The abovementioned certified equipment complies with current regulatory requirements regarding electrical safety in Norway and other EU/EEA member states, as far as this can be checked. Compliance with requirements regarding building-in, protection against electric shock and

Date of issue 15-10-2015

Juan Z. Kleppenes
Certification Department**Nemko AS**Gaustadalléen 30, P.O. Box 73 Blindern, 0314 Oslo, Norway
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ENTERPRISE NUMBER NO974404532

Electromagnetic Compatibility (EMC) must be checked when the equipment is built-in a completed product or forms a part of a complete system.

Additional model(s)

See next page(s)

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ENTERPRISE NUMBER NO974404532

Product	Linear AC/DC Power Supplies
Pos. No	1
Model / Type Ref.	CP498, CP503
Trade mark (if different from page 1)	
Rating	2.5 A, 100/120 Vac,50/60 Hz; 1.0 A, 220/240 Vac 50/60 Hz
Principal characteristics	Output: see the test report. The model name maybe followed by -A. Suffix after the first hyphen may be replaced by -5XX or -7XX where X is 0-9. Model name may be followed by "G" or SXXX or SXXXG where X is from 0-9, indicating non-safety critical options.

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CB TEST CERTIFICATE CERTIFICAT D'ESSAI OCProduct
ProduitName and address of the applicant
Nom et adresse du demandeurName and address of the manufacturer
Nom et adresse du fabricantName and address of the factory
Nom et adresse de l'usineNote: When more than one factory, please report on page 2
Note: Lorsque il y plus d'une usine, veuillez utiliser la deuxième pageRatings and principal characteristics
Valeurs nominales et caractéristiques principalesTrademark (if any)
Marque de fabrique (si elle existe)Type of Manufacturer's Testing Laboratories used
Type de programme du laboratoire d'essais constructeurModel / Type Ref.
Ref. De typeAdditional information (if necessary may also be reported on page 2)
Les informations complémentaires (si nécessaire, peuvent être indiqués sur la deuxième pageA 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 laAs shown in the Test Report Ref. No. which forms part of this Certificate
Comme indiqué dans le Rapport desais numéro de référence qui constitue partie de ce CertificatThis CB Test Certificate is issued by the National Certification Body
Ce Certificat desai OC est établi par l'Organisme **National de Certification**

Linear AC/DC Power Supplies

Bel Fuse Inc.
206 Van Vorst St.
Jersey City, NJ 07302
USABel Fuse Inc.
206 Van Vorst St.
Jersey City, NJ 07302
USABPS Asia Pacific Electronics (Shenzhen) Co., Ltd.
Building# 6, Nanming Road, Gongming Town Huahong
Xintong Industrial Park
Guangming District, Shenzhen 518108
China Additional information on page 2

3.0 A, 100/120 Vac, 50/60 Hz; 1.5 A, 220/240 Vac, 50/60 Hz



CP131, CP162, CP379

Output: see the test report. The model name maybe followed by -A. Suffix after the first hyphen may be replaced by -5XX or -7XX where X is 0-9. Model name may be followed by "G" or SXXX or SXXXG where X is from 0-9, indicating non-safety critical options.

 Additional information on page 2

IEC 60950-1(ed.2);am1;am2

292917

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Marque de fabrique (si elle existe)Type of Manufacturer's Testing Laboratories used
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Xintong Industrial Park
Guangming District, Shenzhen 518108
China Additional information on page 22.5 A, 100/120 Vac,50/60 Hz;
1.0 A, 220/240 Vac,50/60 Hz

CP498, CP503

Output: see the test report. The model name maybe followed by -A. Suffix after the first hyphen may be replaced by -5XX or -7XX where X is 0-9. Model name may be followed by "G" or SXXX or SXXXG where X is from 0-9, indicating non-safety critical options.

 Additional information on page 2

IEC 60950-1(ed.2);am1;am2

292917



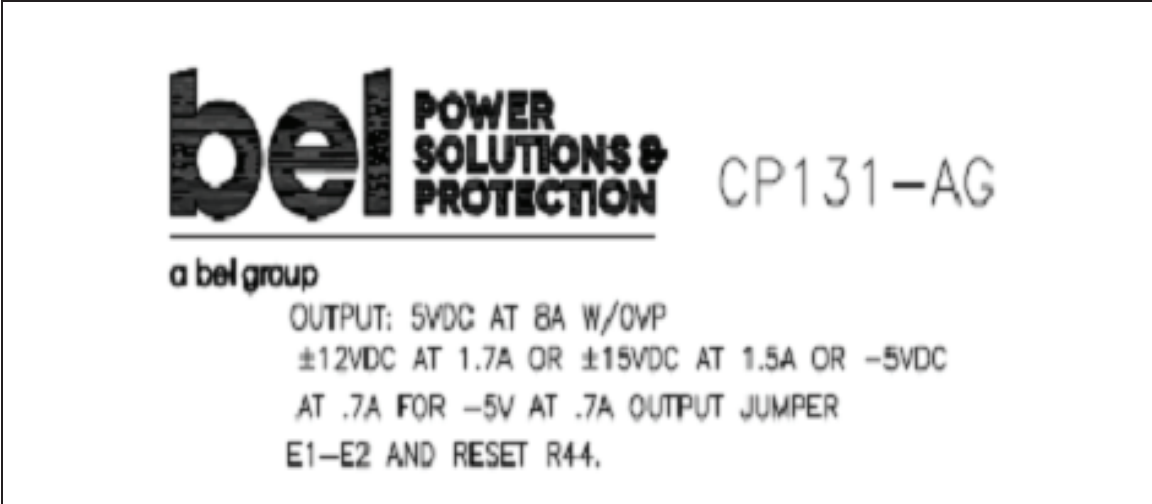
<p>TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements</p>	
Report Number:	292917
Date of issue.....:	14 October 2015
Total number of pages.....	46
Applicant's name:	Bel Fuse Inc.
Address.....:	206 Van Vorst St., Jersey City, NJ 07302
Test specification:	
Standard.....:	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure.....:	CB-Scheme
Non-standard test method.....:	N/A
Test Report Form No.	IEC60950_1F
Test Report Form(s) Originator.....:	SGS Fimko Ltd
Master TRF.....:	Dated 2014-02
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General disclaimer:	
<p>The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.</p>	

Summary of testing:	
General	All comments relate to all models, unless specifically stated.
Power supply	The models are open frame, Class I AC/DC Linear power supplies with universal AC input and single DC voltage output for building-in. This report covers multiple models and all comments / tests apply to all models unless otherwise indicated. Testing was conducted on various models as indicated.
1.5, 3.2.5; Power supply cord set.	A power supply cord set is not provided with the power supply. A power supply cord set, complying with the national regulations of the country in which the product is to be sold, shall be provided with the end-use equipment.
1.7.2; Safety instructions.	Instructions and equipment markings related to safety are to be provided in a language, which is acceptable in the country in which the equipment is to be sold. English language verified.
1.7.2.4; IT power distribution systems.	The equipment complies with the requirements for connection to the Norwegian IT power systems. The following information should be given (but is not required) in the installation instruction: "This product is also designed for IT power system with Phase to Phase voltage 230V."
2.7.4; Number and location of protective devices.	In Norway, IT power distribution system is used. Equipment with a single protective device is accepted in Norway. Other countries may have additional requirements.
2.7.6; Warning to service personnel.	After operation of the protective device, the equipment is still under voltage if it is connected to an IT-power system. A warning is required for service personnel. Norway does not require this warning.
5.2: Electric Strength test	Increased test voltages for Basic insulation applied to the equipment, based on measured working voltages.

Summary of testing: (continued)	
Tests performed (name of test and test clause): 1) Input Test 1.6.2 2) Durability Test 1.17.11 3) SELV Reliability Test 2.2 4) Protective Bonding Test 2.6.3.4 5) Humidity Test 2.9.2 6) Working Voltage Measurement 2.10.2 7) Hazardous Voltage Measurement 2.10.2 8) Heating Test 4.5.1 9) Touch Current Test 5.1 10) Electric Strength Test 5.2.2 11) Component Failure Test 5.3 12) Abnormal Operation Test 5.3 13) PS Output Overload and Short Test 5.3 14) Transformer Overload Test 5.3	Testing location: See page 2

Summary of compliance with National Differences:
List of countries addressed Austria (AT), Australia (AU), Canada (CA), China (CN), Denmark (DK), Finland (FI), Germany (DE), Ireland (IE), Israel (IS), Korea (KR), Norway (NO), Slovenia (SI), Spain (ES), Sweden (SE), Switzerland (CH), United Kingdom (GB), United States of America (US)
<input checked="" type="checkbox"/> The product fulfils the requirements of : EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013

Copy of marking plate: The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective Certification Bodies that own these marks. (Additional requirements for markings. See 1.7 NOTE)



Calibration	All instruments used in the tests given in this test report are calibrated and traceable to national or international standards. Further information about traceability will be given on request.
Measurement uncertainty	Measurement uncertainties are calculated for all instruments and instrument set-ups given in this report. Calculations are based on the principles given in the standard EA-4/02 (Dec. 1999), IEC Guide 115:2007, Nemko routine L227 and other relevant internal Nemko-procedures. Further information about measurement uncertainties will be given on request.
Evaluation of results	If not explicitly stated otherwise in the standard, the test is passed if the measured value is equal to or below (above) the limit line, regardless of the measurement uncertainty. If the measured value is above (below) the limit line, the test is not passed - ref IEC Guide 115:2007, and Nemko routine L220. The instrumentation accuracy is within limits agreed by IECEE-CTL (ref. Nemko routine L227).

Test item particulars:	
Equipment mobility.....:	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains.....:	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains <input checked="" type="checkbox"/> for building-in, compliance at end use
Operating condition.....:	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location.....:	<input checked="" type="checkbox"/> operator accessible, for building-in <input type="checkbox"/> restricted access location
Over voltage category (OVC).....:	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values.....:	-10%, +6%
Tested for IT power systems.....:	<input checked="" type="checkbox"/> Yes (Norway only) <input type="checkbox"/> No
IT testing, phase-phase voltage (V).....:	230
Class of equipment.....:	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A).....:	To be evaluated at end use
Pollution degree (PD).....:	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class.....:	IPX0 (Not evaluated for ingress of water)
Altitude during operation (m).....:	2000 m
Altitude of test laboratory (m).....:	38m, sea level
Mass of equipment (kg).....:	4.05 kg
Temperature, Ambient (°C).....:	50 °C

Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)

Testing.....:	
Date of receipt of test item.....:	October 2015
Date (s) of performance of tests.....:	October 2015

<p>General remarks:</p> <p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>
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<p>Manufacturer's Declaration per sub-clause 6.2.5 of IECCE 02:</p>	
<p>The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..:</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A</p>
<p>When differences exist; they shall be identified in the General product information section.</p> <p>Name and address of factory (ies).....: BPS Asia Pacific Electronics (Shenzhen) Co., Ltd. Building# 6, Nanming Road, Gongming Town Huahong Xintong Industrial Park Guangming District 518108 Shenzhen PEOPLE'S REPUBLIC OF CHINA</p>	

<p>General product information:</p> <p>This test report is based on a TUV SUD test report Ref. No. 095-800001169101-000 dated: 11/05/2008 with appended CB cert Ref. No. DE 3 -57986 dated: 12/08/2008.</p> <p>This test report includes additional evaluation of the power supply to the requirements of IT power systems. The report also includes an upgrade to IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013.</p> <p>For continuity, data from the original TUV report is included in this report, along with the additional evaluation referenced.</p> <p>The CP models are AC/DC linear power supplies with open-frame. These models were evaluated for use at 25°C and 50°C ambient. The units were loaded to 100% of normal rated load with 60Hz inputs and de-rated by 10% with 50 Hz inputs over the specified range from 25 to 50°C. An external protective device is required for each model at end use equipment.</p>

Electrical Rating Information:

Model:	Required input fuse		Input (AC)		Output:		Required airflow (linear feet per minute) lfm
	A	Vac	A	Hz	Vdc	A/Apk	
CP131	3.0	100/120	3.0	50/60	5	8	Convection
	1.5	220/240	1.5		12 or 15	1.7 or 1.5	
					-12 Or -15 or -5	1.7 or 1.5 or 0.7	
CP162	3.0	100/120	3.0	50/60	5	3	125
	1.5	220/240	1.5		-5	0.6	
					24	5	
CP379	3.0	100/120	3.0	50/60	5	6	Convection @ 25°C 200 lfm @ 50°C
	1.5	220/240	1.5		-5 or -12	1.2	
					24	3.5/9	
CP498	2.5	100/120	2.5	50/60	5	6	Convection
	1.5	220/240	1.5		12	5/11	
					-12 or -15	0.5 or 1.5	
CP503	2.6	100/120	2.6	50/60	5	6	Convection @ 25°C 100 lfm @ 50°C
	1.2	220/240	1.2		12	1	
					-12 or -5 24	1 3.5/9	

CONDITIONS OF ACCEPTABILITY:

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

All models require:

- 1) A suitable electrical, mechanical, fire enclosure at end use.
- 2) A reliable ground (Protective Earth) connection at end use.
- 3) External fusing as specified in the installation instructions
- 4) Verification of the enclosure leakage at end use.

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions.....	S.F.C
- functional insulation.....	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity.....	BOP	- reinforced insulation.....	RI
Indicate used abbreviations (if any):None			