Certificate of Compliance

Certificate: 70176819 **Master Contract:** 170351

Project: 80151267 **Date Issued:** 2022-12-15

Issued To: **Bel Fuse Inc.**
206 Van Vorst St
Jersey City, New Jersey, 07302
United States

Attention: Editha S. Vergara

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Issued by: *Gwangyeol Park*
Gwangyeol Park

C US

PRODUCTS

CLASS - C531167 - POWER SUPPLIES Component Type(CSA 62368-1)
CLASS - C531197 - POWER SUPPLIES - Component Type (UL 62368-1) - Component Type (UL 62368-1) - Certified to US Stds

Component type power supply intended for use with Information Technology and Business Equipment, where the suitability of the combination is to be determined by CSA Group.

AC-DC or AC/DC-DC Converter, Models PET2000-12-074NA, PET2000-12-074NAA, PET2000-12-074NAC, PET2000-12-074RA, PET1600-12-074NA, SPADSSD-01G, SPADSSD-02G and SPADXYZ-01G, PET2000-12-074NH and PET2000-12-074RH, PET2000-12-074NACS354, PET2000-12-074NACS373, SPACSCO-50G, SPACSCO-50GRC, SPACSCO-51G, SPACSCO-51GRC, SPACSCO-56G, SPACSCO-56GKD, SPACSCO-56GKD1, SPACSCO-56GKD2, SPACSCO-56GKD3, SPACSCO-56GKD4, SPACSCO-56GKD5, SPACSCO-

56GKD6, SPACSCO-56GKD7, SPACSCO-56GKD8, SPACSCO-56GKD9, SPACSCO-57G, SPACSCO-58G, SPACSCO-66, SPACSCO-67.

Notes: The model names may be followed by alphanumeric characters indicating non-safety critical options.

Electrical Rating:

Models PET2000-12-074NA, PET2000-12-074NAA, PET2000-12-074NAC, SPADSSD-02G, SPAXYZ-01G, PET2000-12-074NACS354,
PET2000-12-074NACS373:
Input: 100-127V~/200-240 V~, 12 A, 50/60 Hz
Output: V1: 12 Vdc, 83.3 A max. (100-127V), 167 A max. (200-240V)
VSB: 12.15 V, 5 A max.

Models SPACSCO-50G, SPACSCO-51G:
Input: 100-127V~/200-240 V~, 12 A, 50/60 Hz
Output: V1: 12 Vdc, 83.3 A max. (100-127V), 167 A max. (200-240V)
VSB: 12 V, 3 A max.

SPACSCO-50GRC, SPACSCO-51GRC:
Input: 200-240 V~, 12 A, 50/60 Hz
Output: V1: 12 Vdc, 167 A max.
VSB: 12 V, 3 A max.

PET1600-12-074NA, SPADSSD-01G:
Input: 100-127V~, 12A; 200-240 V~, 10 A, 50/60 Hz
Output: V1: 12 Vdc, 83.3 A max. (100-127V), 133 A max. (200-240V)
VSB: 12.15 V, 4 A max.

PET2000-12-074RA:
Input: 100-127V~/200-240 V~, 12 A, 50/60 Hz
Output: V1: 12 Vdc, 83.3 A max. (100-127V), 167 A max. (200-240V)
VSB: 12.15 V, 3 A max.

SPACSCO-56G, SPACSCO-56GKD, SPACSCO-56GKD1, SPACSCO-56GKD2, SPACSCO-56GKD3, SPACSCO-56GKD4, SPACSCO-56GKD5, SPACSCO-56GKD6, SPACSCO-56GKD7, SPACSCO-56GKD8, SPACSCO-56GKD9, SPACSCO-57G, PET2000-12-074NH, PET2000-12-074RH:
Input: 100-127V~/200-277 V~, 12 A, 50/60 Hz;
240-380V⎓, 12A
Output: V1: 12 Vdc, 83.3 A max. (100-127Vac); 167 A max. (200-277Vac, 240-380Vdc),
VSB: 12 Vdc, 3 A max.

SPACSCO-58G:

Input: 100-127V~, 14A; 200-240 V~, 10 A, 50/60 Hz

Output: V1: 12 Vdc, 100 A max. (100-127V); 133 A max. (200-240V)
VSB: 12 Vdc, 3 A max.

SPACSCO-66:

Input: 100-127V~, 12A; 200-240 V~, 10 A, 50/60 Hz

Output: V1: 12 Vdc, 87.5 A max. (100-127V); 133 A max. (200-240V)
VSB: 12 Vdc, 3 A max.

Total output power: 1068 W @ 100-127 V~
1632 W @ 200-240 V~

SPACSCO-67:

Input: 100-127V~/200-240 V~, 12 A, 50/60 Hz

Output: V1: 12 Vdc, 87.5 A max. (100-127V), 167 A max. (200-240V)
VSB: 12 Vdc, 3 A max.
Total output power: 1068 W @ 100-127 V~
2036 W @ 200-240 V~

Note: V1 output is derated at different operating ambient. See Condition of Acceptability for maximum load at different operating ambient

Conditions of Acceptability:

1. The Clearance values of the Power Supply Unit (PSU) have been evaluated for an altitude of 3048m or 4000m, altitude correction factor is 1.15 or 1.29.

2. Supply cord is not provided with the units and not part of the evaluation. Suitability of the supply cord for AC or DC supply shall be considered at the end product application.

3. Touch Current Test was conducted at maximum 305 Vac, 60Hz and measured current for single unit was 1.9 mA.

4. The ground path from the appliance inlet to the PSU case meets protective bonding and has been evaluated at 80 A.

5. Evaluated as Class I (earthed equipment). Reliable connection to Protective Earth shall be provided in the end use installation.

6. The PSU was intended to be use with Certified branch circuit breaker rated max 20 A (for models other than SPACSCO-58G, SPACSCO-66, SPACSCO-67), and max 40A (for model SPACSCO-58G, SPACSCO-66, SPACSCO-67). If branch circuit breaker is greater than this is used, additional testing is necessary.

7. The Output circuits are ES1; output V1 is PS3.

8. The PSU has been evaluated for a TN (Including TN-S and TN-C) and TT systems power source.

9. All Isolating transformers isolation barrier insulation temperatures have been measured within the winding on the insulator. The internal temperature did not exceed the insulation Class limits for NORMAL operation and ABNORMAL operation.

10. The temperature of the Isolating Transformers (T71, T201) employ an OBJY3 electrical insulation system designated Class F.

11. The connector current interruption test (Hot Plugging test) was conducted on the secondary output mating connector (external to the unit, manufactured by FCI Type Power Blade P/N: 1013248-005LF) of the PSU for 200 cycles.

12. The front panel, top, bottom and sides of the enclosure provided with the equipment complies with safeguard requirements for Electrical Energy Sources and Fire Enclosures. Suitability of the rear enclosure side openings is to be determined in the end system.

13. The PSU is not intended for use in vehicles, on board ships or aircraft.

14. The maximum output rating of unit varies with input voltage and ambient. See below details.

    PET1600-12-074NA and SPADSSD-01G output is de-rated linearly at ambient higher than 55°C as table below:

Vin(Vac)\Ambient	55°C		70°C	
	12V Max output current (A)	12.15V Max output current (A)	12V Max output current (A)	12.15V Max output current (A)
100-127	83	4	50	2.4
200-240	133	4	80	2.4

    For PET2000-12-074NA, PET2000-12-074NAC, PET2000-12-074NACS373, SPADSSD-02G, SPADXYZ-01G and PET2000-12-074NAA, output is de-rated linearly at ambient higher than 55°C as table below:

Vin(Vac)\Ambient	55°C		70°C/75°C*	
	12V Max output current (A)	12.15V Max output current (A)	12V Max output current (A)	12.15V Max output current (A)
100-127	83	5	50	3

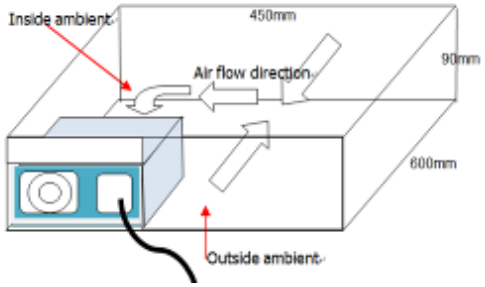
200-240	167	5	100	3

Note: *75°C operation is for PET2000-12-074NACS373 only.

PET2000-12-074RA, SPACSCO-51G, SPACSCO-51GRC, output is de-rated linearly when ambient increase from 40°C to 55°C as table below:

Vin(Vac)\Ambient	40°C		55°C	
	12V max output current (A)	Vsb:12V Max output current (A)	12V max output current (A)	Vsb:12V Max output current (A)
100-127	83.3	3	50	3
200-240	167	3	100	3

SPACSCO-50G, SPACSCO-50GRC were built into a box during the heating test to simulate customer end system construction, see picture below:



The 12V main output is de-rated at different ambient condition and input condition as below table:

Vin(Vac)\ Ambient	outside 45°C/inside 60°C		outside 55°C/inside 70°C	
	12V max output current (A)	12V Max output current (A)	12V max output current (A)	12V Max output current (A)
100-127	83.3	3	50	3
200-240	167	3	100	3

SPACSCO-56G, PET2000-12-074NH output rating, the 12V main output derate at different ambient condition and input condition as below table:

Vin(V)\Ambient	55°C		70°C	
	V1: 12V Max output current (A)	Vsb: 12V Max output current (A)	V1: 12V Max output current (A)	VSB: 12V Max output current (A)
100-127 Vac	83	3	50	3
200-277 Vac	167	3	100	3
240-380 Vdc	167	3	100	3

SPACSCO-57G, PET2000-12-074RH output rating, the 12V main output derate at different ambient condition and input condition as below table.

Vin(V)\Ambient	45°C		55°C	
	V1: 12V Max output current (A)	Vsb: 12V Max output current (A)	V1: 12V Max output current (A)	VSB: 12V Max output current (A)
100-127 Vac	83	3	50	3
200-277 Vac	167	3	100	3
240-380 Vdc	167	3	100	3

SPACSCO-58G output rating:

Vin(Vac)\Ambient	65°C	
	V1: 12V Max output current (A)	Vsb:12V Max output current (A)
100-127	100	3
200-240	133	3

SPACSCO-66 (Cisco P/N: 341-100789-XX) output rating:

Vin(Vac)\Ambient	65°C	
	V1: 12V Max output current (A)	Vsb:12V Max output current (A)
100-127	87.5	3
200-240	133	3
Total maximum output power: 1068 W @ 100-127 V~ 1632 W @ 200-240 V~		

SPACSCO-67 (Cisco P/N: 341-100792-XX) output rating:

Vin(V)\Ambient	45°C	
	V1: 12V Max output current (A)	Vsb:12V Max output current (A)
100-127	87.5	3
200-240	167	3
Total maximum output power: 1068 W @ 100-127 V~ 2036 W @ 200-240 V~		

APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 62368-1-19 - Audio/video, information and communication technology equipment – Part 1: Safety requirements

UL 62368-1 3nd Ed. - Audio/video, information and communication technology equipment – Part 1: Safety requirements

Notes:

Products certified under Class C531167 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

Supplement to Certificate of Compliance

Certificate: 70176819 **Master Contract:** 170351

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80151267	2022-12-15	Update CSA 70176819 (SPACSCO-56GKD) to include alternate construction (fan, fuse, insulation material, etc) - based on acceptance of data from CPC program
80133218	2022-07-13	Update CSA Report 70176819 (PET2000) to include alternate model designations SPACSCO-56GKD, SPACSCO-56GKD1, SPACSCO-56GKD2, SPACSCO-56GKD3, SPACSCO-56GKD4, SPACSCO-56GKD5, SPACSCO-56GKD6, SPACSCO-56GKD7, SPACSCO-56GKD8, SPACSCO-56GKD9 - models are identical to original models, except SPACSCO-56GKD, which is the same as SPACSCO-56G except for the handle and latch color
80101245	2021-10-04	Update CSA 70176819 (SPACSCO-66) to add alternate transformers, and upgrade from 62368-1 (2.0) to (3.0) - new P/N on the auxiliary and power transformers due to alternate insulation system; - add alternate component sources; - upgrade approval to CAN/CSA C22.2 No. 62368-1-19 and ANSI/UL 62368-1, 3rd Edition
70206230	2018-11-16	Update CSA Report 70176819 to revise the fan grill and handle orientation on model SPACSCO-67
70194306	2018-08-13	Update CSA Report 70176819 to remove all Cisco P/Ns and add flammability rating on AC inlet
70176819	2018-03-21	AC/DC Switching Power Supply, Models PET2000-12-074NA, PET2000-12-074NAA, PET2000-12-074NAC, PET2000-12-074RA, PET1600-12-074NA, SPA DSSD-01G, SPADSSD-02G and SPAXYZ-01G, PET2000-12-074NH and PET2000-12-074RH (CSA c/us)(Obsoletes report 70028359 and upgrades to 623 68-1)