



# Certificate of Compliance

Certificate: 70090403

Master Contract: 170351

Project: 70090403

Date Issued: 2016-08-09

Issued to: **Bel Fuse Inc.**  
206 Van Vorst St  
Jersey City, New Jersey 07302  
USA  
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: *Maggie Lam*  
Maggie Lam

## PRODUCTS

CLASS - C531111 - POWER SUPPLIES-Component Type(CSA 60950-1-07-2nd Ed)

CLASS - C531191 - POWER SUPPLIES-Component Type(UL 60950-1-2nd Ed)Certified to U.S.Stds

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

Converter, Models TET3000-12-069RA and SPAINSP-01G, model number may be followed by alpha numeric characters indicating non-safety critical options.

Electrical Rating:

Model	Input		Maximum Output (DC)	
	V	A	V	A
TET3000-12-069RA;	100-277 V a.c.	17-12.5	12.3	244
SPAINSP-01G	240-380 V d.c.	13-9	12.0	3

The maximum current of main output V1: 12.3V is derated linearly when ambient increase from 50°C to 60°C, and when input voltage decrease from 200 to 100V, see tables as below:



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Vin\ambient	50°C	60°C
100-200 V a.c.	81.3-244A	65 -195.2A
200-277 V a.c., 240-380 V d.c.	244A	195.2A

### **APPLICABLE REQUIREMENTS**

CAN/CSA C22.2 No. 60950-1-07, - Information Technology Equipment - Safety - Part 1: General  
Amendment1:2011 Requirements  
(MOD)+Am2:2014

ANSI/UL 60950-1-2014 - Information Technology Equipment - Safety - Part 1: General  
Requirements

### **CONDITIONS OF ACCEPTABILITY**

1. The power supply is to be installed only by trained service personnel, according to manufacturer installation instructions. Installation instructions are included with the end system manual in which this power supply is used.
2. This component has been judged on the basis of the required spacings in the Standard for Safety of Information Technology Equipment, CSA/UL 60950-1, Second Edition, Sub-clause 2.10, which would cover the component itself if submitted for Listing.
3. The equipment has been evaluated for use in Pollution Degree 2 environment. Maximum 60°C ambient.
4. The equipment has been evaluated as Class I (earthed equipment). Reliable earth connection shall be provided in the end use installation via Chassis. The bond impedance test of Cl. 2.6.3.4 was performed at 80A for 4 minutes.
5. The Clearance values of the Power Supply Unit (PSU) have been evaluated for an altitude of 5000m, under IEC60664-1:1992 Table A.2 (altitude correction factor is 1.48).
6. Equipment is rated higher than 16A. Type of connection to Mains must be determine in the end use equipment.
7. The PSU is not intended for use in vehicles, on board ships or aircraft.
8. The PSU has been evaluated for a TN (Including TN-S and TN-C), TT, IT (for Norway) systems power source.
9. The PSU has been evaluated for use with a Phase-Neutral power source or DC power source.
10. Evaluated for connection to AC or DC power with a branch circuit protector rated max 40A.



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11. The secondary outputs are at SELV limits. The V1: 12.3V output is considered to be at hazardous energy level. Accessibility is to be determined in the end system. The V2: 12.0 V<sub>SB</sub> output is non-hazardous energy level.
12. Reinforced/double insulation is provided between input and output and basic insulation is provided between input and chassis.
13. 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.
14. The temperature of the isolating transformer T5, T6 employ an OBJY3 electrical insulation system Class F. Isolating transformer T1 employs a Class B. Isolating transformer T3, T4 employs a Class A.
15. The connector interruption test (Hot Plugging test) was conducted on the secondary connector of the PSU for 200 cycles.
16. The Capacitance Discharge Test was conducted on the input connector, the requirements of UL 60950-1/CSA 60950-1 were met. (Capacitance Discharge Tests were measured across Line-Neutral, Line-Earth, and Positive-Negative).
17. The front face of the PSU may be a part of the front of the end product. The front face of the PSU did pass the 'Impact test'
18. Suitability of enclosure provided with the equipment as a FIRE, MECHANICAL and ELECTRICAL enclosure is to be determined in the end system. Front bezel was evaluated and complies with electrical fire and mechanical requirements.
19. The PSU continued to operate NORMALLY or Shutdown and temperatures of safety critical components remained within limits for ABNORMAL operation.



## *Supplement to Certificate of Compliance*

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

### **Product Certification History**

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<b>Project</b>	<b>Date</b>	<b>Description</b>
70090403	2016-08-09	Converter, Models TET3000-12-069RA and SPAINSP-01G. (C/US)