



# Certificate of Compliance

**Certificate:** 70205363

**Master Contract:** 181564 (LR 108238)

**Project:** 70205363

**Date Issued:** 2018-11-23

**Issued to:** Delta Electronics (Thailand) Public Co., Ltd.  
909 Soi 9 Moo 4 Pattana 1 Rd  
Bangpoo Industrial Estate E.P.Z.  
Tambol Phraksa  
Amphur Muang, Samut Prakan 10280  
Thailand  
**Attention:** Mr. Surasit Kansaard

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and US Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only*



**Issued by:**

*CBWai*  
CheeBeng Wai

## PRODUCTS

CLASS 5311 11 - POWER SUPPLIES Component Type (CSA 60950-1-07-2nd Ed)

CLASS 5311 91 - POWER SUPPLIES Component Type (UL 60950-1-2nd Ed) Certified to U.S. Stds

Building-in open frame switching power supply:

Model	PJL-48V200WBAX(y) (Where X and (y) is any alphanumeric from 0-9, A-Z, a-z, or blank)	PJL-48V400WBAX(y) (Where X and (y) is any alphanumeric from 0-9, A-Z, a-z, or blank)
Input ratings	100-277Vac/ 50-60Hz, 2.4A	100-277Vac/ 50-60Hz, 4.8A
Output ratings	48V/4.17A (Adjustable from 48 to 50Vdc), 200W max	48V/8.33A (Adjustable from 48 to 50Vdc), 400W max



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Notes:

1. The power supply was evaluated for use at an altitude of up to 5000 meters above sea level, and the clearance requirement has been adjusted by a multiplying factor of 1.48 (linear interpolation was considered), based on IEC60664-1 requirement.
2. PWB bonding trace location A to location B (identified at attachment att. 4) is evaluated to CSA C22.2 No. 04 for limited short circuit current test at 1000A.
3. Suitable to be used in an operating ambient not exceeding 50°C in normal operating condition for force air cooling of minimum 400LFM (see attachment att. 7, fig 5 for installation of force air cooling location) ; or convection cooling with position A, B and C. See attachment att. 7 (fig. 3) for positions of convection cooling considered at 50°C or more.
4. De-rating power curve is applicable for operating ambient of more than 50°C. See attachment att.7 (fig. 4) for derating information.
5. Suitable electrical, mechanical and fire enclosure shall be provided in end product.
6. The Output circuits are SELV; secondary output operates at hazardous energy levels (> 240 VA).
7. The product was tested in a branch circuit protected by a 20A Listed circuit breaker per input. Additional evaluation shall be conducted if a higher protector is to be used in the end system
8. This open-framed power supply should be provided provision of reliable earthing (permanently connected or pluggable type B) during final installation at end product.
9. Transformer T1 uses a Class F insulation system for model PJL-48V400WBAX(y) and class B insulation system for model PJL-48V200WBAX(y). Materials are evaluated to UL 1446. See critical component list for information.
10. The following accessible locations (with circuit/schematic designation) are within limited current circuit: Secondary side of CY1 for model PJL-48V400WBAX(y)
11. Neutral and Secondary ground is being referenced to earth during working voltage measurement.
12. The input and output connector is not suitable for field wiring, it is only intended for connection to the mating connector of internal wiring inside the end-use equipment.
13. Maximum power is considered with continuous operation of force-cooling DC FANs (min. 400LFM)
14. The power supply was evaluated as a component for use with other information technology equipment where the suitability of the combination is to be determined by CSA Group.

**APPLICABLE REQUIREMENTS**

- |   |   |  |
|---|---|--|
| CAN/CSA-C22.2 No 60950-1-07<br>Incl. AM1 (2011) +AM2 (2014)                 | - | Information Technology Equipment – Safety – Part 1: General Requirements |
| ANSI/UL Std No 60950-1, 2 <sup>nd</sup> Ed.<br>Incl. AM1 (2011) +AM2 (2014) | - | Information Technology Equipment – Safety – Part 1: General Requirements |



## *Supplement to Certificate of Compliance*

**Certificate:** 70205363

**Master Contract:** 181564 (LR 108238)

*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>
70205363	2018-11-23	Original certification for Building-in open frame switching power supply, Model PJL-48V200WBAX(y), PJL-48V400WBAX(y) (Where X and (y) is any alpha numeric from 0-9, A-Z, a-z, or blank)



# Certificate of Compliance

**Certificate:** 70205364

**Master Contract:** 181564 (LR 108238)

**Project:** 70205364

**Date Issued:** 2018-12-26

**Issued to:** Delta Electronics (Thailand) Public Co., Ltd.  
909 Soi 9 Moo 4 Pattana 1 Rd  
Bangpoo Industrial Estate E.P.Z.  
Tambol Phraksa Amphur Muang, Samut Prakan 10280  
THAILAND  
Attention: Mr. Surasit Kansaard

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and US Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only*



Issued by:

*CBWai*  
CheeBeng Wai

## PRODUCTS

CLASS 5311 67 - POWER SUPPLIES Component Type - (For Canadian Certification)

CLASS 5311 97 - POWER SUPPLIES Component Type - (For US Certification)

Building-in open frame switching power supply:

Model	PJL-48V200WBAX(y) (Where X and (y) is any alphanumeric from 0-9, A-Z, a-z, or blank)	PJL-48V400WBAX(y) (Where X and (y) is any alphanumeric from 0-9, A-Z, a-z, or blank)
Input ratings	100-277Vac/ 50-60Hz, 2.4A	100-277Vac/ 50-60Hz, 4.8A
Output ratings	48V/4.17A  (Adjustable from 48 to 50Vdc), 200W max	48V/8.33A  (Adjustable from 48 to 50Vdc), 400W max



**Certificate:** 70205364

**Master Contract:** 181564 (LR 108238)

**Project:** 70205364

**Date Issued:** 2018-12-26

Notes:

1. The power supply was evaluated for use at an altitude of up to 5000 meters above sea level, and the clearance requirement has been adjusted by a multiplying factor of 1.48 (linear interpolation was considered), based on Table 17 of 62368-1.
2. PWB bonding trace location A to location B (identified at attachment att. 4) is evaluated to Annex R for 1500A, which is considered as worst case as compared to CSA C22.2 No. 0.4 table 5.
3. Suitable to be used in an operating ambient not exceeding 50°C in normal operating condition for force air cooling of minimum 400LFM (see attachment att. 7, fig 5 for installation of force air cooling location) ; or convection cooling with position A, B and C. See attachment att. 7 (fig. 3) for positions of convection cooling considered at 50°C or more.
4. De-rating power curve is applicable for operating ambient of more than 50°C. See attachment att.7 (fig. 4) for derating information.
5. Suitable electrical, mechanical and fire enclosure shall be provided in end product.
6. The Output circuits are ES2; secondary output operates at PS3
7. The product was tested in a branch circuit protected by a 20A Listed circuit breaker per input. Additional evaluation shall be conducted if a higher protector is to be used in the end system
8. This open-framed power supply should be provided provision of reliable earthing (permanently connected or pluggable type B) during final installation at end product.
9. Transformer T1 uses a Class F insulation system for model P JL-48V400WBAX(y) and class B insulation system for model P JL-48V200WBAX(y). Materials are evaluated to UL 1446. See critical component list for information.
10. The following accessible locations (with circuit/schematic designation) are within limited current circuit: Secondary side of CY1 for model P JL-48V400WBAX(y)
11. Neutral and Secondary ground is being referenced to earth during working voltage measurement.
12. The input and output connector is not suitable for field wiring, it is only intended for connection to the mating connector of internal wiring inside the end-use equipment.
13. Maximum power is considered with continuous operation of force-cooling DC FANs (min. 400LFM)
14. The power supply was evaluated as a component for use with other information technology equipment where the suitability of the combination is to be determined by CSA Group.

**APPLICABLE REQUIREMENTS**

CAN/CSA C22.2 No. 62368-1-14

- Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements

ANSI/UL 62368-1, 2<sup>nd</sup> Ed.

- Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements



## *Supplement to Certificate of Compliance*

**Certificate:** 70205364

**Master Contract:** 181564 (LR 108238)

*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>
70205364	2018-12-26	Original certification for Building-in open frame switching power supply, Model PJL-48V200WBAX(y), PJL-48V400WBAX(y) (Where X and (y) is any alpha numeric from 0-9, A-Z, a-z, or blank)