AGENCY APPROVAL NOTICE

AAN No.	**09544**
Issue Date	**October 13, 2009**

Model name	**ALD03B48, ALD11G48, ALD13Y48, ALD15M48**
Astec Internal Model name (if applicable)	

Please be informed that captioned model new ☐ modified ☒ revised ☐ additional manufacturing location ☐ construction is approved by mentioned agency and approval mark of the agency as per attached document can now be sticked on model label.

DESCRIPTION

CSA	Astec Data Pack	☐	**SPRING**	Certificate	☐
	Astec Statement of Compliance	☐	**SEMKO**	Certificate	☐
	CSA Certification of Compliance	☐	**TUV**	Notification of Test Result	☐
	CSA Certification Report	☐	**(Rheinland)**	Certificate	☐
CCC	Certificate	☐		Copy Answer for Revision	☐
C-TICK	Letter for Use of C-Tick Mark	☐	**TUV**	Type Approval Confirmation	☐
DEMKO	Certificate	☐	**(Product Services)**	Certificate	☐
DENAN	Certificate	☐	**UL**	TCP Submittal Letter	☐
FIMKO	Certificate	☐		Authorization Letter	☐
KTL Korea	Certificate	☐	**VDE**	Status Report	☐
NEMKO	Status Report	☐		Certificate	☐
	Certificate	☐		Copy Answer for Revision	☐
NSW	Certificate	☐	**Others**	UL Descriptive Report	☒
ASTEC	Revision Letter to VDE	☐	**CE Marking**	under LVD under LVD & EMC	☐ ☐

DISTRIBUTION

ACP	Project Management	**Joel Zaens, Jessie Buaron, Patrick Tang, Steven Shi**
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ASP	Safety Engg.	

AAN RECEIPT ACKNOWLEDGEMENT

To : Product Safety Lab. (HK/Pasig/CDE)

From : Production QA ( ) / Safety ( )

ABOVE MENTIONED DOCUMENTS RECEIVED

Signature and Date

PREPARED BY

M. Angel

REVIEWED BY

M. Torrijos

DESCRIPTION

PRODUCT COVERED:

*USR, CNR Component – DC-DC Converter, Models ALD10F48, ALD07A48, **ALD03B48, ALD11G48, ALD13Y48 and ALD15M48** for use in Information Technology Equipment.

ELECTRICAL RATINGS:

MODEL	INPUT	OUTPUT
ALD10F48	DC +36 to +75 V 1.18 A	DC +3.3 V, 10 A Max.
ALD07A48	DC +36 to +75 V 1.10 A	DC +5.0 V, 7 A Max.
ALD03B48	**DC +36 to +75 V 1.3 A**	**DC +12.0 V, 2.75 A Max.**
ALD11G48	**DC +36 to +75 V 1.0 A**	**DC +2.5 V, 11 A Max.**
ALD13Y48	**DC +36 to +75 V 0.9 A**	**DC +1.8 V, 13 A Max.**
ALD15M48	**DC +36 to +75 V 0.9 A**	**DC +1.5 V, 15 A Max.**

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

General – The units are for use in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

*Both USR and CNR indicate investigation to the Standard for Safety of Information Technology Equipment, UL 60950-1, **Second** Edition **dated March 27, 2007** and **CAN/CSA C22.2 No. 60950-1-07, Second Edition, dated March 01, 2007**.

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

1. These DC-DC converters have been judged on the basis of the required creepages and clearances in the Second Edition of the Standard for Safety of Information Technology Equipment, UL 60950-1 and CAN/CSA-C22.2 No. 60950-1-07, Second Edition, Sub-clause 2.10, which covers the end-use product for which the component was designed. The functional insulations have been evaluated by conducting Component Failure Test per sub-clause 5.3.4 (c) of UL 60950-1, Second Edition and CAN/CSA-C22.2 No. 60950-1-07, Second Edition.

2. These DC-DC converters have only been evaluated for use in pollution degree 2 environment.

3. A suitable fire, mechanical and electrical enclosure shall be provided by end-use equipment.

4. Model ALD10F48 has been evaluated under 200 LFM forced air cooling and the following loading conditions, see ILL. 3 for the system details.

   a. Maximum ambient temperature up to 85 °C at 7.9 A, with 36 V input.
   b. Maximum ambient temperature up to 85 °C at 6.5 A, with 75 V input.
   c. Maximum ambient temperature up to 60 °C at 10 A, with 36 V input.
   d. Maximum ambient temperature up to 60 °C at 10 A, with 75 V input.

5. Model ALD07A48 has been evaluated under 300 LFM and 700 LFM forced air cooling and the following loading conditions, , see ILL. 3 for the system details.

At 300 LFM forced air cooling:
a. Maximum ambient temperature up to 85 °C at 6.5 A, with 36 V input.
b. Maximum ambient temperature up to 82 °C at 7.0 A, with 36 V input.
c. Maximum ambient temperature up to 58 °C at 7.0 A, with 75 V input.
d. Maximum ambient temperature up to 58 °C at 7.0 A, with 36 V up to 75 V input.

At 700 LFM forced air cooling:
e. Maximum ambient temperature up to 85 °C at 2.5 A, with 75 V input.

6. Model ALD03B48 has been evaluated under 200 LFM and 400LFM forced air-cooling and the following loading conditions, see ILL. 3 for the system details.

At 200LFM forced air cooling:
a. Maximum ambient temperature up to 60 °C at 2.75 A, with 36 V input.
b. Maximum ambient temperature up to 59 °C at 2.75 A, with 75 V input.
c. Maximum ambient temperature up to 60 °C at 2.75 A, from 36 V up to 75 V input.

At 400LFM forced air cooling:
d. Maximum ambient temperature up to 85 °C at 2.5 A, with 36 V input.
e. Maximum ambient temperature up to 85 °C at 1.8 A, with 75 V input
f. Maximum ambient temperature up to 85 °C at 1.8 A, from 36 V up to 75 V input.

7. Model ALD11G48 has been evaluated under 200 LFM, 300 LFM and 400LFM forced air-cooling and the following loading conditions, see ILL. 3 for the system details.

At 200LFM forced air cooling:
a. Maximum ambient temperature up to 75 °C at 11 A, with 36 V input.
b. Maximum ambient temperature up to 85 °C at 8.0 A, with 36 V input.

At 300LFM forced air cooling:
c. Maximum ambient temperature up to 60 °C at 11 A, with 75 V input.

At 400LFM forced air cooling:
d. Maximum ambient temperature up to 85 °C at 3.0 A, with 75 V input

8. Model ALD13Y48 has been evaluated under 200 LFM forced air cooling and the following loading conditions, see ILL. 3 for the system details.

a. Maximum ambient temperature up to 85 °C at 10.9 A, with 36 V input.
b. Maximum ambient temperature up to 85 °C at 7.0 A, from 36 V up to 75 V input.
c. Maximum ambient temperature up to 60 °C at 13 A, with 36 V and 75 V input.
d. Maximum ambient temperature up to 60 °C at 13 A, from 36 V up to 75 V input.

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9. Model ALD15M48 has been evaluated under 200 LFM forced air cooling and the following loading conditions, see ILL. 3 for the system details.

   a. Maximum ambient temperature up to 85 °C at 10.7 A, with 36 V input.
   b. Maximum ambient temperature up to 85 °C at 8.5 A, from 36 V up to 75 V input.
   c. Maximum ambient temperature up to 45 °C at 15 A, with 36 V and 75 V input.
   d. Maximum ambient temperature up to 45 °C at 15 A, from 36 V up to 75 V input.

10. These DC-DC converters are classified as Level 3 as defined by UL 60950-1 and CAN/CSA-C22.2 No. 60950-1-07.

11. These DC-DC converters are not evaluated for end system mounting.

12. These DC-DC converters are considered as secondary component. The DC input of the power supply shall be separated from the AC mains by reinforced insulation.

13. DC-DC converter, Model ALD10F48 has no in-line fuse. The end product must provide for protection fuse (JDYX2), Littelfuse Inc (E10780), Type 2173.15, rated maximum 3.15 A, minimum 250 V, or Listed (JDYX) maximum 3.15 A, minimum 250 V.

14. DC-DC converter, Model ALD07A48 has no in-line fuse. The end product must provide for protection fuse (JDYX2), Hollyland Co Ltd (E156471), Type 50F, rated maximum 3.15 A, minimum 250 V, or Listed (JDYX) maximum 3.15 A, minimum 250 V.

15. DC-DC converter, Models ALD03B48 and ALD11G48 have no in-line fuse. The end product must provide for protection fuse (JDYX2), Hollyland Co Ltd (E156471), Type 50CF, rated maximum 2.5 A, minimum 250 V, or Listed (JDYX) maximum 2.5 A, minimum 250 V.

16. DC-DC converter, Models ALD13Y48 and ALD15M48 have no in-line fuse. The end product must provide for protection fuse (JDYX2), Hollyland Co Ltd (E156471), Type 5ET-010H, rated maximum 1 A, minimum 250 V, or Listed (JDYX) maximum 3.15 A, minimum 250 V.

17. These DC-DC converters are not intended to be repaired by service personnel in case of failure or component defect (unit can be thrown away).

18. These DC-DC converters maintain basic insulation from secondary input circuits to output circuits.

19. The Clearances and Creepage Distances have additionally been assessed for suitability up to 3000m elevation.

20. Input is considered as TNV-2 while output is SELV. Additional consideration shall be given during the end product investigation if the input voltage exceed 75 V.