IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx TSA 07.0031X

Issue No: 2

Certificate history:
Issue No. 2 (2017-05-11)
Issue No. 1 (2009-09-17)
Issue No. 0 (2007-09-14)

Status: **Current**

Date of Issue: **2017-05-11**

Applicant: **Austdac Pty Ltd**
Unit 1, 42 Carrington Road
Castle Hill NSW 2154
Australia

Equipment: **Power Supply Type AC25W**

Optional accessory:

Type of Protection: **[Ex ia]**

Marking:

Austdac
Power Supply AC25W
[Ex ia] I
IECEx TSA 07.0031X
S/No. _____

Approved for issue on behalf of the IECEx Certification Body: Debbie Wouters

Position: Acting Quality & Certification Manager

Signature:
(for printed version)

Date: 11 MAY 2017

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

TestSafe Australia
919 Londonderry Road
Londonderry NSW 2753
Australia

Test Safe AUSTRALIA

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Manufacturer: **Austdac Pty Ltd**
Unit 1, 42 Carrington Road
Castle Hill NSW 2154
Australia

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2000 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
Edition:3.1

IEC 60079-11 : 1999 Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'
Edition:4

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

AU/TSA/ExTR07.0007/00 AU/TSA/ExTR07.0007/01

Quality Assessment Report:

AU/ITA/QAR06.0001/11

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The power supply consists of a mains input circuit with one fuse each on both the active line and neutral line, an infallible transformer for a step-down in the voltage and galvanic isolation from the input, and then a low voltage electronics board which restricts the transfer of energy to intrinsically safe circuits by limitation of voltage and current. An optional use of safety capacitor network will increase feedback stability. The capacitor network is mounted on a small printed circuit board and connected across the main current limiting resistors.

External connections to the intrinsically safe circuits are by a two-pin socket. The mains input is by means of a three-pin socket.

The power supply is to be supplied from either a 110 or 240 V r.m.s. supply according to the marking on the label.

The nominal output voltage and current are marked on the label, and may be one of the following options:

Nominal Voltage	Nominal output current (amps)								
12 V	0.250	0.375	0.415	0.460	0.520	0.620	0.740	0.785	0.880
14 V	0.250	0.375	0.415	0.460					
18 V	0.085	0.104	0.125	0.156	0.187	0.199	0.240	0.284	

The optional use of safety capacitor network will only apply to 12 V models.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Please refer to Annexe.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 2:

Change of both Applicant address and Manufacturer address from

"1 / 4 Packard Avenue, Castle Hill, NSW 2154, Australia"
To
"Unit 1, 42 Carrington Road, Castle Hill, NSW 2154, Australia"

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Additional Information:

Annex:

Annexe_IECEx TSA 07.0031X-2.pdf

IECEx Certificate of Conformity Annexe

Annexe for Certificate No.:	IECEx TSA 07.0031X	Issue No.:	2

Drawing list pertaining to Issue 0 of this Certificate:

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
66-021-03	2	Intrinsically Safe Ex ia Power Supply Type AC25W (12V) Schematic Diagram	09	2007/08/06
66-022-21	3	Intrinsically Safe Ex ia Power Supply Type AC25W PCB0058A Artwork Details	04	2007/08/06
66-023-06	1	Intrinsically safe Exia Power Supply Type AC25W Chassis Mechanical Details	07	2007/08/06
66-024-07	4	Intrinsically safe Ex ia Power Supply Type AC25W PCB0057A & PCB0058A Component Loading Diagram	09	2007/08/06
66-025-04	2	Intrinsically Safe Ex ia Power Supply Type AC25W Transformer Assembly Diagram	03	2007/08/06
66-026-05	1	Intrinsically Safe Ex ia Power Supply Type AC25W Transformer & Chassis Wiring Diagram	04	2007/08/06
66-027-04	3	Intrinsically safe Ex ia Power Supply Type AC25W Chassis Assembly Detail	04	2007/08/06
66-028-13	1	Intrinsically Safe Ex ia Power Supply Type AC25W Label / Cover (LABL109) Label Details	06	2007/08/06
66-029-14	8	Intrinsically safe Exia Power Supply Type AC25W – 12V Bill of Materials	12	2007/08/15
66-030-15	1	Intrinsically safe Exia Power Supply Type AC25W General Arrangement	05	2007/08/06
66-033-06	1	Intrinsically safe Exia Power Supply AC25W Heatsink Mechanical Details	05	2007/08/06
66-034-21	3	Intrinsically Safe Ex ia Power Supply Type AC25W PCB0057A Artwork Details	06	2007/08/06
66-042-06	1	Intrinsically Safe Exia Type AC25W Power Supply Conversion Plate Details	03	2006/07/10
66-043-06	1	Intrinsically Safe Ex ia Power Supply Type AC25W Fuse016A & Fuse016B Mechanical Details	03	2007/08/06

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Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
67-016-03	2	AC25W 14V Intrinsically Safe Exia Power Supply Schematic Diagram	07	2007/06/04
67-017-07	3	14V Intrinsically safe Exia Power Supply AC25W Component Loading Diagram	05	2006/08/04
67-019-14	8	AC25W Intrinsically safe Exia Power Supply – 14V Bill of Materials	07	2004/01/28
68-016-03	2	AC25W 18V Intrinsically Safe Exia Power Supply Schematic Diagram	06	2007/06/04
68-017-07	3	18V Intrinsically safe Exia Power Supply AC25W Component Loading Diagram	05	2006/08/04
68-19-04	1	AC25W 18 Volt I.A. Power Supply Transformer Details	1	1999/03/08
68-020-14	8	AC25W Intrinsically safe Exia Power Supply – 18V Bill of Materials	06	2003/12/03
66-120-03	1	AC25W Capacitor PCB (ECN 99-060-33) Schematic	01	2006/09/09
66-121-21	4	AC25W Capacitor PCB (ECN 99-060-33) Artwork Details	01	2006/09/09
66-122-14	2	AC25W Capacitor PCB (ECN 99-060-33) Bill of Materials	1	2006/09/09
66-123-07	1	AC25W Capacitor PCB (ECN 99-060-33) Component Loading Diagram	01	2006/09/09
99-060-33	1	AC25W Power Supply Capacitor Engineering Change Note ECN	03	2007/03/06

Conditions of Certification pertaining to Issue 0 of this Certificate:

1. It is a condition of manufacture that each infallible transformer shall be subjected to the tests of Clause 11.2 of IEC 60079.11 Standard for Routine Tests.
2. It is a condition of manufacture that the routine High Voltage Test of Clause 11.2 of IEC 60079.11 be applied at 500 V r.m.s. between the intrinsically safe output conductors and earth.
3. It is a condition of safe use that the apparatus has been assessed as associated equipment under the 'entity' concept. *(Note that the parameters pertaining to Issue 0 of this certificate have been revised. The Co parameter was lowered so that the Co and Lo may be connected in any configuration. See revised parameters listed in Issue 1 of this certificate).*

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4. It is a condition of safe use that the power supply must be installed within a suitable enclosure that offers a degree of protection not less than IP54 and is capable of withstanding a 20-Joule impact.

5. It is a condition of safe use that the earth connection on the power supply must be bonded to solid earth.

Variations pertaining to Issue 1 of this certificate:

The power supply is nearly identical to that considered in the earlier issue of this certificate, with variations in the components used and the printed circuit board layout. These variations have been considered for compliance in test report 31731 (AU/TSA/ExTR07.0007/01).

The earlier allowable output parameter Co has been lowered in this issue of the certificate. This allows the capacitance and inductance to be connected in any configuration (first lumped capacitance, followed by lumped inductance, or first lumped inductance followed by lumped capacitance, or lumped capacitance across lumped inductance. Distributed capacitance and inductance are also allowed.)

Hence the revised report and this issue of the certificate now provide the revised output parameters.

Drawing list pertaining to Issue 1 of this Certificate:

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
66-021-03	2	Intrinsically Safe Ex ia Power Supply Type AC25W (12V) Schematic Diagram	13	2009/09/09
66-024-07	4	Intrinsically Safe Ex ia Power Supply Type AC25W PCB0057A & PCB0058A Component Loading Diagram	13	2009/09/09
66-022-21	3	Intrinsically Safe Ex ia Power Supply Type AC25W PCB0058A Artwork Details	06	2009/09/07
66-029-14	9	Intrinsically Safe Exia Power Supply Type AC25W – 12V Bill of Materials	16	2009/09/09
66-028-13	2	Intrinsically Safe Ex ia Power Supply Type AC25W Label / Cover (LABL109) Label Details	10	2009/08/21

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Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
66-047-37	2	Intrinsically Safe Ex ia Power Supply Type AC25W (12 Volt Output Only) Document List	10	2009/09/09
67-016-03	2	AC25W 14V Intrinsically Safe Ex ia Power Supply Schematic Diagram	09	2009/09/09
67-017-07	4	14V Intrinsically Safe Ex ia Power Supply Type AC25W Component Loading Diagram	07	2009/09/09
67-019-14	8	AC25W Intrinsically Safe Exia Power Supply – 14V Bill of Materials	09	2009/09/09
68-016-03	2	AC25W 18V Intrinsically Safe Ex ia Power Supply Schematic Diagram	07	2009/09/09
68-017-07	3	18V Intrinsically Safe Ex ia Power Supply AC25W Component Loading Diagram	06	2009/09/09
68-020-14	8	AC25W Intrinsically Safe Exia Power Supply – 18V Bill of Materials	07	2009/09/09
99-082-33	1	Intrinsically Safe Ex ia Power Supply Type AC25W Zener Limiter Modification Engineering Change Notification	02	2009/08/26

Conditions of Certification pertaining to Issue 0 and Issue 1 of this Certificate:

In addition to the conditions of certification listed in Issue 0 of this certificate, the following parameters must be taken into consideration during installation:

At the 3 pin mains supply connection: U_m

Version	U_m
110 V	121 V a.c. r.m.s
240 V	250 V a.c. r.m.s

At the 2 pin i.s. output socket : U_o, I_o, C_o, L_o, L/R

Type	Nom output current	U_o (Volts)	I_o (mA)	C_o (µF)	L_o (µH)	or L_o/R_o (µH/Ω)
12 V	0.250 A	12.34	531	14	100	123
12 V	0.375 A	12.34	757	14	100	123
12 V	0.415 A	12.33	833	14	50	84
12 V	0.460 A	12.33	925	14	50	84
12 V	0.520 A	12.33	1041	14	50	84

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Type	Nom output current	U_o (Volts)	I_o (mA)	C_o (µF)	L_o (µH)	or L_o/R_o (µH/Ω)
12 V	0.620 A	12.33	1249	14	50	84
12 V	0.740 A	12.33	1487	14	50	72
12 V	0.785 A	12.33	1571	14	50	70
12 V	0.880 A	12.33	1771	14	50	61
12 V with C network	0.250 A	12.34	531	14	100	123
12 V with C network	0.375 A	12.34	757	14	100	123
12 V with C network	0.415 A	12.33	833	14	50	84
12 V with C network	0.460 A	12.33	925	14	50	84
12 V with C network	0.520 A	12.33	1041	14	50	84
12 V with C network	0.620 A	12.33	1249	14	50	84
12 V with C network	0.740 A	12.33	1487	14	50	72
12 V with C network	0.785 A	12.33	1571	14	50	70
12 V with C network	0.880 A	12.33	1771	14	50	61
14 V	0.250 A	13.98	532	11.8	100	117
14 V	0.375 A	13.98	757	11.8	100	117
14 V	0.415 A	13.98	833	11.8	100	94
14 V	0.460 A	13.98	925	11.8	100	94
18 V	0.085 A	17.97	170	4	200	128
18 V	0.104 A	17.97	208	4	200	128
18 V	0.125 A	17.97	250	4	200	128
18 V	0.156 A	17.97	312	4	200	128
18 V	0.187 A	17.97	375	4	200	128
18 V	0.199 A	17.97	399	4	200	128
18 V	0.240 A	17.97	480	4	50	104
18 V	0.284 A	17.97	568	4	50	85

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Variation permitted by Issue 2:

- Change of both Applicant address and Manufacturer address from

  "1 / 4 Packard Avenue, Castle Hill, NSW 2154, Australia"

  To

  "Unit 1, 42 Carrington Road, Castle Hill, NSW 2154, Australia"

Conditions of Certification pertaining to Issue 2 of this Certificate:

No changes. The previous conditions still apply.

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