

## [1] EC TYPE-EXAMINATION CERTIFICATE

[2] Equipment or Protected System Intended for use  
in Potentially explosive atmospheres  
Directive 94/9/EC

[3] EC-Type Examination Certificate Number:      Nemko 08ATEX1324X

[4] Equipment or Protective System:              Power Supply Type AC25W

[5] Applicant / Manufacture:                      Austdac Pty Ltd

[6] Address:    Unit 1/4 Packard Avenue  
    Castle Hill NSW 2154  
    Australia

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] Nemko AS, notified body number 0470 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. 112284

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
  
CENELEC EN 60079-0: 2006, CENELEC EN 60079-11: 2007

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC.  
Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following :

CE<sub>0470</sub>



(1) M1

[Ex ia] I

Oslo, 2008-12-15



Rolf Hoel  
Certification Manager, Ex-products

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### [13] Schedule

#### [14] EC-TYPE EXAMINATION CERTIFICATE No **Nemko 08ATEX1324X**

#### [15] Description of Equipment or Protective System

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 240V 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)								
12V	0.250	0.375	0.415	0.460	0.520	0.620	0.740	0.785	0.880
14V	0.250	0.375	0.415	0.460					
18V	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 12V models.

#### [16] Report No. 112284

##### Descriptive Documents

Name/Title	Drawing No.	Rev/Issue	Date	Sheet No
Intrinsically safe Ex ia Power supply type AC25W (12v) Schematic diagram	66-021-03	09	2007/08/06	2
Intrinsically safe Ex ia Power supply type AC25W PCB0058A Artwork details	66-022-21	04	2007/08/06	3
Intrinsically safe Ex ia Power supply type AC25W chasis mechanical details	66-023-06	07	2007/08/06	1
Intrinsically safe Ex ia Power supply type AC25W PCB0057A & PCB0058A Component loading diagram	66-024-07	09	2007/08/06	2
Intrinsically safe Ex ia Power supply type AC25W transformer assembly diagram	66-025-04	03	2007/08/06	2
Intrinsically safe Ex ia Power supply type AC25W transformer & chassis wiring diagram	66-026-05	04	2007/08/06	1
Intrinsically safe Ex ia Power supply type AC25W chassis assembly details	66-027-04	04	2007/08/06	3
Intrinsically safe Ex ia Power supply type AC25W label/cover (LABL109) label details	66-028-13	08	2008/12/09	2
Intrinsically safe Ex ia Power supply type AC25W-12V bill of materials	66-029-14	12	2007/08/15	8

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Intrinsically safe Ex ia Power supply type AC25W Genmeral arrangement	66-030-15	05	2007/08/06	1
Intrinsically safe Ex ia Power supply type AC25W heatsink mechanical details	66-033-06	05	2007/08/06	1
Intrinsically safe Ex ia Power supply type AC25W PCB0057A Artwork details	66-034-21	06	2007/08/06	3
Intrinsically safe Ex ia Power supply type AC25W power supply conversion plate details	66-042-06	03	2006/07/10	1
Intrinsically safe Ex ia Power supply type AC25W fuse016A & fuse016B mechanical details	66-043-06	03	2007/08/06	1
AC25W 14V Intrinsically safe Ex ia Power supply type schematic diagram	67-016-03	07	2007/06/04	2
14V Intrinsically safe Ex ia Power supply type AC25W component loading diagram	67-017-07	05	2006/08/04	3
AC25W Intrinsically safe Ex ia Power supply – 14V bill of materials	67-019-14	07	2004/01/28	8
AC25W 18V Intrinsically safe Ex ia Power supply Schematic diagram	68-016-03	06	2007/06/04	2
18V intrinsically safe Exia Power supply schematic diagram	68-017-07	05	2006/08704	3
AC25W Intrinsically safe Ex ia Power supply – 18V bill of materials	68-020-14	06	2003/12/03	8
AC25W capacitor PCB (ECN 99-060-33) schematic	66-120-03	01	2006/09/09	1
AC25W capacitor PCB (ECN 99-060-33) Artwork details	66-121-21	01	2006/09/09	4
AC25W capacitor PCB (ECN 99-060-33) bill of materials	66-122-14	01	2006/09/09	2
AC25W capacitor PCB (ECN 99-060-33) component loading diagram	66-123-07	01	2006/09/09	1
AC25W power supply capacitor engineering change note ECN	99-060-33	03	2007/03/06	1

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**Nemko 08ATEX1324X**
**[17] Special Conditions for Safe Use**

1. It is a condition of manufacture that each infallible transformer shall be subjected to the test of Clause 11.2 of EN 60079-11 Standard for Routine Tests.
2. It is a condition of manufacture that the routine High Voltage Test of Clause 11.2 of EN 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 an associate equipment under the 'entity' concept. The following parameters must be taken into account during the 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)	$C_o$ ( $\mu$ F)	$L_o$ ( $\mu$ H)	or $L_o/R_o$ ( $\mu$ H/ $\Omega$ )
12 V	0.250 A	12.34	531	27	100	123
12 V	0.375 A	12.34	757	27	100	123
12 V	0.415 A	12.33	833	27	50	84
12 V	0.460 A	12.33	925	27	50	84
12 V	0.520 A	12.33	1041	27	50	84
12 V	0.620 A	12.33	1249	27	50	84
12 V	0.740 A	12.33	1487	27	50	72
12 V	0.785 A	12.33	1571	27	50	70
12 V	0.880 A	12.33	1771	27	50	61

Type	Nom output current	$U_o$ (Volts)	$I_o$ (mA)	$C_o$ ( $\mu$ F)	$L_o$ ( $\mu$ H)	or $L_o/R_o$ ( $\mu$ H/ $\Omega$ )
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	18	100	117
14 V	0.375 A	13.98	757	18	100	117
14 V	0.415 A	13.98	833	18	100	94
14 V	0.460 A	13.98	925	18	100	94
18 V	0.085 A	17.97	170	5	200	128
18 V	0.104 A	17.97	208	5	200	128
18 V	0.125 A	17.97	250	5	200	128
18 V	0.156 A	17.97	312	5	200	128
18 V	0.187 A	17.97	375	5	200	128
18 V	0.199 A	17.97	399	5	200	128
18 V	0.240 A	17.97	480	5	50	104
18 V	0.284 A	17.97	568	5	50	85

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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 withstand 20-Joule impact.
5. It is a condition of safe use the earth connection on the power supply must be bonded to solid earth.

**[18] Essential Health and Safety Requirements**

See item 9



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