



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 13.0017X

Issue No: 3

Certificate history:

Issue No. 3 (2018-05-09)

Issue No. 2 (2017-05-11)

Issue No. 1 (2015-07-31)

Issue No. 0 (2013-08-14)

Status: **Current**

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Date of Issue: **2018-05-09**

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

Equipment: **Uninterruptible Power Supply 12/NMH/288**

Optional accessory:

Type of Protection: **Intrinsic safety "i"; encapsulation "m"**

Marking:
AC Mains Input ON: Ex eb ia mb [ia Ma] I Mb
AC Mains Input OFF : Ex ia ma I Ma

*Approved for issue on behalf of the IECEx
Certification Body:*

Debbie Wouters

Position:

Acting Quality & Certification Manager

*Signature:
(for printed version)*

Date:

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](http://www.iecex.com).

Certificate issued by:

TestSafe Australia
919 Londonderry Road
Londonderry NSW 2753
Australia





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

Additional Manufacturing location(s):
Dongguan Hubbell Electrical Products Company Limited
Xincheng Industrial Zone
Hengli Town, Dongguan City
523460, Guangdong
China

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 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 : 2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18 : 2009 Explosive atmospheres Part 18: Equipment protection by encapsulation "m"
Edition:3

*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/ExTR12.0057/00](#) [AU/TSA/ExTR12.0058/00](#) [AU/TSA/ExTR12.0058/01](#)

Quality Assessment Report:

[AU/ITA/QAR06.0001/11](#) [AU/ITA/QAR15.0002/02](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Uninterruptible Power Supply Type 12/NMH/288 (UPS) is powered from nominal input voltage from 100V to 240VAC and provides a nominal output voltage of 12V at 0.3 - 2.5A to load. The UPS uses internal batteries to maintain the output in the event of a power failure. The UPS output can be controlled either by an internal timer, SILBUS or Ethernet.

The equipment consists of a stainless steel UPS enclosure with minimum IP55 rated cable glands and connectors to facilitate external connections. It contains a main board and two battery boards that provide the step down of the incoming mains input, charging of the self-contained batteries, and the intrinsic safety output circuits. These boards are totally encapsulated and protected using encapsulation type of protection (Ex m). UPS enclosure contains also an intrinsically safe display that provides information on the status of the UPS using LED indicators. It has a single reset button on the display.

The UPS enclosure has a connection compartment above encapsulated compartment which can accommodate an internal Ex e terminal box and this is identified as variant 1. The permanently attached mains cable from Ex m compartment is connected in internally fitted Ex e terminal box - Stahl Type 8118/112-0 certified under IECEx PTB 06.0026 by the manufacturer. This Ex e terminal box with Ex e cable glands are protected from mechanical damage for Group I application by UPS enclosure. Main input cable will have to be terminated inside this internal Ex e terminal box. Other connectors in UPS compartment are covered by intrinsic safety.

When UPS enclosure is not fitted with an internal Ex e terminal box, the equipment is provided with permanently attached mains cable and this is identified as Variant 2. The permanently attached cable from Ex m compartment is passed through Ex e or Ex d certified cable gland out of UPS enclosure and it will have to be terminated in any suitable certified Group I, Ex e or Ex d junction box in accordance with Group I Mb requirements. Other connectors in UPS compartment are covered by intrinsic safety.

The UPS operates in two modes:

- AC Mains Input ON: In this mode, mains input power is available through the externally fitted Ex e or Ex d terminal box or through Ex e terminal box which is fitted in the top chamber of the UPS enclosure for the charging of the battery, display, SILBUS, Ethernet communications, and also to provide the intrinsically safe 12V 0.3 – 2.5A output
- AC Mains Input OFF: In this mode, no mains power is available. The internal battery provides the power for the display, SILBUS, Ethernet communications, and also to provide the intrinsically safe 12V 0.3 – 2.5A output.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The Console Port shall only be used in safe area.
2. At the SILBUS port, the Um of 265 V is only allowed when the apparatus is in safe area.
3. Mains input cable must be terminated within Ex e terminal box fitted internally in UPS enclosure in accordance with increased safety requirements for Variant 1.
4. Permanently attached heavy duty sheathed mains cable must be terminated within external Group I, Ex e or Ex d certified terminal box in accordance with Group I Mb requirements for Variant 2.

Refer to Annexe of the certificate for additional condition #5.



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

Issue 1:

Dongguan Hubbell Electrical Products Company Limited is added as a new manufacturing site.

Issue 2:

Austdac Pty Ltd address was changed from Unit 1, 4 Packard Avenue, Castle Hill NSW 2154 to Unit 1, 42 Carrington Road, Castle Hill, NSW 2154.

Issue 3

1. Alternative battery
2. Alternative Ethernet circuit
3. Um changed from 250 V to 265 V.
4. Output current changed from 1 A to 0.3 – 2.5 A.
5. Change to the Real time clock power circuit.
6. The 6V2 zeners on 3V3 & 5V rails are replaced by 6V8 zeners.
7. Improve the regulation of SMPS output voltage at light load.
8. Separated the 3-crowbar circuits & made independent.
9. Voltage limiters for battery charging circuit modified.
10. Equipment description was re-worded for clarity purposes.
11. Condition of specific use were changed to clarify two variants and to cover changes in electronic circuits.



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Additional information:

See Annexe for details.

Annex:

[Annexe_IECEX TSA 13.0017X_3_GO.pdf](#)



IECEX Certificate of Conformity Annexe

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Specific Conditions of use pertaining to Issue 0, 1 and 2 of this Certificate:

1. The Console Port shall only be used in safe area.
2. At the SILBUS port, the Um of 250V is only allowed when the apparatus is in safe area.
3. Mains input cable must be terminated within Ex e terminal box fitted internally in UPS enclosure in accordance with increased safety requirements for Variant 1.
4. Permanently attached heavy duty sheathed mains cable must be terminated within external Group I, Ex e or Ex d certified terminal box in accordance with Group I Mb requirements for Variant 2.
5. It is a condition of specific use that the following parameters shall be taken into account during connection of the equipment:

Electrical Parameters	AC Mains Input X200 on 61-166-19	DC Output X201 on 61-166-19	SILBUS Port X203 on 61-166-19 (X100 on 13-310-03)	Ethernet Port X202 on 61-166-19 (X102 on 13-310-03)	Console Port X2 on 61-166-19 (X2 on 13-310-03)
Um	250 V	-	250 V (when in safe area only)	-	-
Ui	-	-	12.6 V	7.14 V	7.14 V
Ii	-	-	3.3 A	0.48 A	3.3 A
Pi	-	-	-	1 W	-
Ci	-	-	0 µF	0.45 µF	0 µF
Li	-	-	0 µH	0 µH	0 µH
Uo	-	12.6 V	0 V	7.14 V	7.14 V
Io	-	1 A	-	0.48 A	0.05 A
Co	-	25 µF	-	60 µF	100 µF
Lo	-	60 µH	-	0.1 mH	0.1 mH
Lo/Ro	-	65 µH/Ω	-	-	-

Drawing list pertaining to Issue 0 of this Certificate:

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
61-166-19	2	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Certification Schematic Diagram	01	2013-07-27
13-310-03	2	Display with Ethernet and Silbus Type DES1 PCB0306 Schematic Diagram	02	2013-07-26
13-311-21	5	Display with Ethernet and Silbus Type DES1 PCB0306A Artwork Details	02	2013-05-01
13-312-14	3	Display with Ethernet and Silbus Type DES1 PCB0306 Bill of Materials	02	2013-05-01
61-153-03	0/7 to 7/7	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB0299A (Pages 0 to 6) PCB0298A (Page 7) Schematic Diagram	04	2013-07-25
61-155-14	2	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB0298A Bill of Materials (<i>Battery Board</i>)	04	2013-08-07

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IECEX Certificate of Conformity Annexe

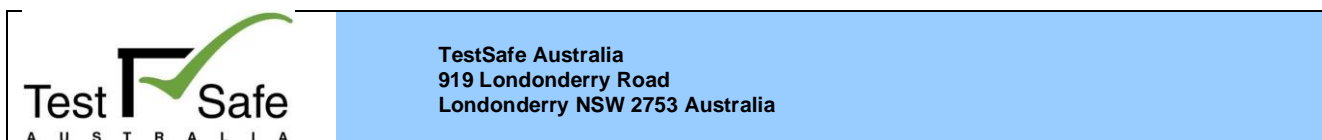
Annexe for Certificate No.:	IECEX TSA 13.0017X	Issue No.:	3
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Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
61-158-14	4	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB0299A Bill of Materials (<i>Main Board</i>)	03	2013-07-02
61-160-14	3	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Bill of Materials (<i>UPS Assembly</i>)	02	2013-08-07
61-165-04	3	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Assembly Diagram	02	2013-08-07
61-167-13	4	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Labels Mechanical Details	01	2013-07-30
61-173-04	2	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB Stack Assembly Diagram	02	2013-07-24
61-241-21	7	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB0298A Artwork Details (<i>Battery Board</i>)	02	2013-07-02
61-242-21	7	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB0299A Artwork Details (<i>Main PCB</i>)	04	2013-07-02
61-247-04	1	Inductor_power_200uH_4A with 0.25mm_Infalible_Insulation Mechanical Details	01	2013-05-30
61-248-24	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Transformer Certification Details	05	2013-03-21
61-280-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Enclosure Mechanical Details	02	2013-07-24
61-281-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Cover Mechanical Details	02	2013-05-23
61-282-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Gasket Mechanical Details	01	2013-07-26
61-284-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Base Heatsink Mechanical Details	01	2013-03-07
61-285-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Side Heatsink Mechanical Details	01	2013-03-08
61-286-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 U7 Heatsink Mechanical Details	01	2013-03-07
61-287-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Terminal Plate Mechanical Details	03	2013-07-29
61-289-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Gland Plate Mechanical Details	02	2013-06-06
90-369-04	1	Encapsulated Barrier Network Fuse Type EBNF1 Assembly Diagram	02	2011-04-14

Specific Conditions of use pertaining to Issue 3 of this Certificate:

1. The Console Port shall only be used in safe area.

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2. At the SILBUS port, the Um of 265 V is only allowed when the apparatus is in safe area.
3. Mains input cable must be terminated within Ex e terminal box fitted internally in UPS enclosure in accordance with increased safety requirements for Variant 1.
4. Permanently attached heavy duty sheathed mains cable must be terminated within external Group I, Ex e or Ex d certified terminal box in accordance with Group I Mb requirements for Variant 2.
5. It is a condition of specific use that the following parameters shall be taken into account during connection of the equipment:

Electrical Parameters	AC Mains Input X200 on 61-166-19	DC Output X201 on 61-166-19		SILBUS Port X203 on 61-166-19 (X100 on 13-310-03)	Ethernet Port X202 on 61-166-19 (X102 on 13-310-03)	Console Port X2 on 61-166-19 (X2 on 13-310-03)	Modbus X300 on 61-166-19 (X300 on 13-310-03)
Um	265 V	-		265 V (when in safe area only)	-	-	-
Ui	-	-		12.6 V	7.14 V	7.14 V	16.5 V
Ii	-	-		3.3 A	0.48 A	3.3 A	3.3 A
Pi	-	-		-	1 W	-	-
Ci	-	-		0 µF	0.45 µF	0 µF	0 µF
Li	-	-		0 µH	0 µH	0 µH	0 µH
Uo	-	12.6 V		0 V	7.14 V	7.14 V	5.88 V
Io	-	0.3 - 1 A	1.1 - 2.5 A	-	0.48 A	0.05 A	0.084 A
Co	-	23 µF	18 µF	-	60 µF	100 µF	-
Lo	-	60 µH	60 µH	-	0.1 mH	0.1 mH	-
Lo/Ro	-	62 µH/Ω	25 µH/Ω	-	-	-	-

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Drawing list pertaining to Issue 3 of this Certificate:

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
61-166-19	2	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Certification Schematic Diagram	02	2018-04-04
13-310-03	2	Display with Ethernet and Silbus Type DES1 PCB0306 Schematic Diagram	03	2018-04-10
13-311-21	5	Display with Ethernet and Silbus Type DES1 PCB0306A Artwork Details	04	2018-04-10
13-312-14	3	Display with Ethernet and Silbus Type DES1 PCB0306 Bill of Materials	04	2018-04-10
61-153-03	8	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB0299A (Pages 0 to 6) PCB0298A (Page 7) Schematic Diagram	06	2018-01-10
61-158-14	4	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB0299A Bill of Materials	04	2018-01-10
61-160-14	3	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Bill of Materials (UPS Assembly)	05	2018-06-18
61-155-14	2	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB0298A Bill of Materials	06	2017-12-01
61-241-21	7	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB0298A Artwork Details	04	2017-12-01
61-161-15	2	Intrinsically Safe Ex ia UPS Type 12/NMH/288 General Arrangement	05	2018-06-19
61-165-04	3	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Assembly Diagram	05	2018-06-19
61-167-13	4	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Labels Mechanical Details	06	2018-07-24
61-173-04	2	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB Stack Assembly Diagram	03	2018-01-03
61-242-21	7	Intrinsically Safe Ex ia UPS Type 12/NMH/288 PCB0299A Artwork Details	06	2018-01-10
61-248-24	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Transformer Certification details	06	2018-05-07
61-316-04	1	Inductor_power_136uH with_Infallible_Insulation Mechanical Details	02	2016-07-15
61-280-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Enclosure Mechanical Details	04	2016-08-12
61-285-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Side Heatsink Mechanical Details	02	2014-07-24
61-287-06	1	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Terminal Plate Mechanical Details	06	2017-10-31
61-289-06	2	Intrinsically Safe Ex ia UPS Type 12/NMH/288 Gland Plate Mechanical Details	04	2016-08-12
61-163-12	51	Intrinsically Safe Ex ia UPS Type 12/NMH/288 User's Manual	07	2018-01-10

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