



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX ITA 08.0017X** Page 1 of 5 [Certificate history:](#)  
Issue 0 (2008-10-27)

Status: **Current** Issue No: 1

Date of Issue: 2021-08-20

Applicant: **Nautitech Mining Systems Pty Limited**  
Unit 3/9 Packard Ave  
Castle Hill NSW 2154  
**Australia**

Equipment: **Battery Type 500701**

Optional accessory:

Type of Protection: **Intrinsic Safety "ia"**

Marking: Ex ia I/II C T4 IP55  
-20C<=Ta<= 80C Ma Ga  
IECEX ITA 08.0017X

Approved for issue on behalf of the IECEx  
Certification Body:

**Ajay Maira**

Position:

**Certification Authority**

Signature:  
(for printed version)

*Ajay Maira*

Date:

2021-08-20

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 [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**Ex Testing and Certification Pty Ltd**  
1/30 Kennington Drive  
Tomago NSW 2322  
Australia



TESTING & CERTIFICATION



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Date of issue: 2021-08-20

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Manufacturer: **Nautitech Mining Systems Pty Limited**  
Unit 3/9 Packard Ave  
Castle Hill NSW 2154  
**Australia**

Additional  
manufacturing  
locations:

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 equipment 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 60079-0:2007-10** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:5

**IEC 60079-11:2006** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"  
Edition:5

This Certificate **does not** indicate compliance with 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/ITA/ExTR08.0019/00](#)

Quality Assessment Report:

[AU/MSQ/QAR21.0001/00](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Battery Type: 500701 provides a nominal 3.6V supply for electrical apparatus located in a hazardous area. The apparatus comprises a double layer printed circuit board upon which are mounted electronic components and a battery. The printed wiring board and components are totally encapsulated in to a hard setting epoxy to a depth not less than 1.0 mm. External connections are made via the integral leads which are to be installed within an a minimum IP20 enclosure.

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

See Annexe for details.



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**  
See Annexe for details



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Date of issue: 2021-08-20

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**Additional information:**

Job 21105

**Annex:**

[IECEX Certificate 08.0017X-1 Annex - final.pdf](#)

# IECEX Certificate of Conformity



## Annexe



Annexe for Certificate No.:

IECEX ITA 08.0017X

Issue No.: 1

### Description:

Provided in the Equipment description section of the certificate

### Specific Conditions of Use pertaining to Issue 0 of this Certificate:

1. The following parameters\* are to be taken into account in the installation

Output Parameters		
$U_o =$	3.9	V
$I_o =$	4.6	mA
$P_o =$	3.79	mW
$C_i =$	Negligible	$\mu$ F
$L_i =$	Negligible	mH

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the hazardous area load connected to hazardous area terminals identified in the following table must not exceed the following values: -

Group	Capacitance( $\mu$ F)	Inductance OR L/R Ratio	
		(mH)	( $\mu$ H/ $\Omega$ )
IIC	1000	1680	7994
IIB	1000	6721	31978
IIA	1000	13442	63957
I	6000	22054	104930

Note: The above load parameters apply where:

- The external circuit contains no combined lumped inductance or capacitance greater than 1% of the above values. OR
- The inductance and capacitance are distributed as in a cable. OR
- The external circuit contains only lumped inductance or only lumped capacitance in combination with a cable.

In all other situations e.g. combined lumped inductance and capacitance, up to 50% of each of L and C values is allowed.

\*When the battery is located in a non-hazardous area (which may be within a separately certified flameproof enclosure), the rating of internal safety critical components are adequate with  $U_m$  250V applied to the connecting wires.

(Note \*: To avoid confusion, the parameters were revised in Issue 1 of the certificate by removing  $U_m$  from the Output Parameters table and placing as a text in the paragraph above)

# IECEX Certificate of Conformity



## Annexe



**Annexe for Certificate No.:**

**IECEX ITA 08.0017X**

**Issue No.: 1**

2. The electrical connections to the integral cable must be housed within a suitable enclosure offering a degree of protection not less than IP20.
3. To protect other connected apparatus, observe the polarity of the battery during installation.
4. To avoid the effects of electrostatic discharge, follow the manufacturer's instructions.

**Drawing list pertaining to Issue 0 of this Certificate:**

**Manufacturer's Documents**

Title:	Drawing No.:	Pages	Rev. Level:	Date:
IS Battery	ExMD500701	1	1.0	2008-08-27
Device Markings IS Battery	ExMK500701	1	1.0	2008-08-26
IS Battery	ExPB500701-01	1	1.0	2008-08-26
IS Battery	ExPS500701-01	1	1.0	2008-08-26
Wiring Diagram IS Battery	ExWD500701	1	1.0	2008-08-26
IS Battery-Safety Instructions	ExNTD500702	1	1.0	2008-09-22

**Variations permitted by Issue 1 of this certificate:**

- The address of the applicant and manufacturer has been revised.
- The manufacturer's Quality Assessment was changed from Ex Testing and Certification to another IECEX Certification Body, Mine Safety Technology Centre. QAR reference has been changed accordingly.

**Specific Conditions of Use pertaining to Issue 1 of this certificate:**

There are no changes to the conditions of use.

**Drawings Associated with the Issue 1 of this Certificate:**

There are no drawings applicable to this issue of the certificate.