



# 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 MSC 14.0017X**

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Certificate history:

Status: **Current**

Issue No: 2

[Issue 1 \(2017-06-21\)](#)

[Issue 0 \(2014-10-28\)](#)

Date of Issue: 2023-11-16

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

Equipment: **Start Panel Module Type 12021**

Optional accessory:

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

Marking: **Ex ia I Ma**

Approved for issue on behalf of the IECEx  
Certification Body:

**Ujen Singh**

Position:

**Quality and Certification Manager**

Signature:  
(for printed version)

Date:  
(for printed version)

16 November 2023

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**TestSafe Australia**  
919 Londonderry Road  
Londonderry, NSW 2753  
**Australia**





# IECEX Certificate of Conformity

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Date of issue: 2023-11-16

Issue No: 2

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

Manufacturing locations: **Nautitech Mining Systems Pty Limited**  
Unit 3/9 Packard Ave  
Castle Hills NSW 2154  
**Australia**

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 60079-0:2011](#) 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

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/MSC/ExTR14.0012/00](#)

Quality Assessment Report:

[AU/MSC/QAR21.0001/01](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Start Panel Module (SPM) Type 12021 is an intrinsically safe graphical user interface (GUI) designed for instrumented systems in a Group I hazardous area. It connects to other intrinsically safe devices through its integral cable and 8-way field bus connector which powers both the SPM and its isolated communication circuits. The SPM also contains RFID authentication circuits.

The electronic circuits except for the keypad are fully encapsulated and housed inside a stainless steel enclosure.

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

Refer to attached Annexe for details.



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## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

Variations permitted by Issue 2:

The auditing body was changed to TestSafe Australia.

### **Annex:**

[IECEx MSC 14.0017X-2\\_Annexe.pdf](#)



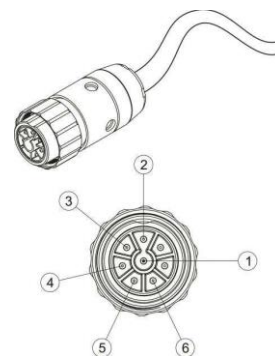
# IECEX Certificate of Conformity Annexe

<b>Annexe for Certificate No.:</b>	IECEX MSC 14.0017X	<b>Issue No.:</b>	2
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## Conditions of certification pertaining to Issue 2 of this Certificate:

It is a condition of safe use that the following parameters are taken into account during any installation:

<b>P1 Terminals (Pin 2 not connected)</b>	<b>4 to 3</b>	<b>5, 6, 7 to 8</b>
<b>Maximum Input Voltage <math>U_i</math></b>	9 V	9 V
<b>Maximum Input Power <math>P_i</math></b>		3.15 W
<b>Maximum Input Capacitance <math>C_i</math></b>	5.5 $\mu$ F	8.75 $\mu$ F
<b>Maximum Input Inductance <math>L_i</math></b>	Negligible	Negligible



## Drawing list pertaining to Issue 2 of this Certificate:

Document / Drawing No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
ZUQPTY4FSNWN-191-385	1 of 12	Part # 12021-1.0 Start Panel Module (SPM) SCHEMATIC	1	2014-07-07
ZUQPTY4FSNWN-191-385	2 of 12	Part # 7543-1.0 SPM-PCB2-Daughter SCHEMATIC	1	2014-08-05
ZUQPTY4FSNWN-191-385	3 of 12	Part # 7541-1.0 SPM-PCB1-Main SCHEMATIC	1	2013-08-05
ZUQPTY4FSNWN-191-385	4 of 12	Part # 7541-1.0 Power_SPM SCHEMATIC	1	2014-02-04
ZUQPTY4FSNWN-191-385	5 of 12	Part # 7541-1.0 Voltage Monitor Direct SCHEMATIC	1	2012-12-05
ZUQPTY4FSNWN-191-385	6 of 12	Part # DS_BR-1.0 SAFETY $\mu$ P SCHEMATIC	1	2013-05-29
ZUQPTY4FSNWN-191-385	7 of 12	Part # DS_BS-1.0 Sensor - Temperature – Analog SCHEMATIC	1	2013-06-25
ZUQPTY4FSNWN-191-385	8 of 12	Part # DS_BQ-1.0 BQ_SENSOR-RTC- I2C- 0x68-No Coin Cell SCHEMATIC	1	2013-06-25
ZUQPTY4FSNWN-191-385	9 of 12	Part # DS_BT-1.0 MEMORY_SPI_FLASH_4MB SCHEMATIC	1	2013-06-25
ZUQPTY4FSNWN-191-385	10 of 12	Part # DS_AV-1.0 IS BARRIER $U_i$ 9v $C_i$ 5.5uF $P_o$ <3.15W SCHEMATIC	1	2013-08-12

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Document / Drawing No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
ZUQPTY4FSNWN-191-385	11 of 12	Part # DS_EC-1.0 CAN TRANSCEIVER SCHEMATIC	2	2013-10-08
ZUQPTY4FSNWN-191-385	12 of 12	Part # DS_FE-1.0 ISOLATED CAN OPTO SCHEMATIC	2	2013-10-08
ZUQPTY4FSNWN-191-275	1 of 7	Part # 7523-0.2 CUBEx UI Faceplate SCHEMATIC	1	2013-03-06
ZUQPTY4FSNWN-191-275	2 of 7	Part # 7521-0.2 UIFP Main PCB SCHEMATIC	1	2014-03-05
ZUQPTY4FSNWN-191-275	3 of 7	Part # 7521-0.2 UIFP Load SCHEMATIC	1	2014-03-05
ZUQPTY4FSNWN-191-275	4 of 7	Part # 7521-0.2 UIFP LCD SCHEMATIC	1	2014-03-05
ZUQPTY4FSNWN-191-275	5 of 7	Part # 7525-0.2 UIFP FLEX Keypad SCHEMATIC	1	2014-02-11
ZUQPTY4FSNWN-191-275	6 of 7	Part # DS_BZ-1 IS BARRIER Keypad SCHEMATIC	1	2014-01-08
ZUQPTY4FSNWN-191-275	7 of 7	Part # DS_EJ-1 Bluetooth 4.0 BLE SCHEMATIC	1	2014-03-06
ZUQPTY4FSNWN-191-386	1	PART 12021-1 SPM CERTIFICATION DETAIL	1	2014-06-16
ZUQPTY4FSNWN-191-290	1	PART 2181-936-1 UIFP CERTIFICATION DETAIL	1	2014-04-04
12021-1	1	SPM DATASHEET	2	2017-05-17
ZUQPTY4FSNWN-191-279	1 of 10	Part #7521 UIFP Main PCB TOP LAYER PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-279	2 of 10	Part #7521 UIFP Main PCB Mid-Layer 1 PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-279	3 of 10	Part #7521 UIFP Main PCB Mid-Layer 2 PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-279	4 of 10	Part #7521 UIFP Main PCB Mid-Layer 3 PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-279	5 of 10	Part #7521 UIFP Main PCB Mid-Layer 4 PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-279	6 of 10	Part #7521 UIFP Main PCB Bottom Layer PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-279	7 of 10	Part #7521 UIFP Main PCB Top Silkscreen Overlay PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-279	8 of 10	Part #7521 UIFP Main PCB Bottom Silkscreen Overlay PCB ARTWORK	1	2014-04-04

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Document / Drawing No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
ZUQPTY4FSNWN-191-279	9 of 10	Part #7521 UIFP Main PCB Top Solder Mask Print PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-279	10 of 10	Part #7521 UIFP Main PCB Bottom Solder Mask Print PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-278	1 of 6	Part #7525 UIFP FLEX Keypad TOP LAYER PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-278	2 of 6	Part #7525 UIFP FLEX Keypad Bottom Layer PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-278	3 of 6	Part #7525 UIFP FLEX Keypad Top Silkscreen Overlay PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-278	4 of 6	Part #7525 UIFP FLEX Keypad Bottom Silkscreen Overlay PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-278	5 of 6	Part #7525 UIFP FLEX Keypad Top Solder Mask Print PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-278	6 of 6	Part #7525 UIFP FLEX Keypad Bottom Solder Mask Print PCB ARTWORK	1	2014-04-04
ZUQPTY4FSNWN-191-383	1 of 9	Part #7540 PCB1-Main TOP LAYER PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-383	2 of 9	Part #7540 PCB1-Main Mid Layer 1 PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-383	3 of 9	Part #7540 PCB1-Main Mid Layer 2 PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-383	4 of 9	Part #7540 PCB1-Main Bottom Layer PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-383	5 of 9	Part #7540 PCB1-Main Top Overlay PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-383	6 of 9	Part #7540 PCB1-Main Bottom Overlay PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-383	7 of 9	Part #7540 PCB1-Main Top Paste PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-383	8 of 9	Part #7540 PCB1-Main Bottom Paste PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-383	9 of 9	Part #7540 PCB1-Main Board Outline PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-384	1 of 9	Part #7542 PCB2-Daughter TOP LAYER PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-384	2 of 9	Part #7542 PCB2-Daughter Mid Layer 1 PCB ARTWORK	1	2014-07-07

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ZUQPTY4FSNWN-191-384	3 of 9	Part #7542 PCB2-Daughter Mid Layer 2 PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-384	4 of 9	Part #7542 PCB2-Daughter Bottom Layer PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-384	5 of 9	Part #7542 PCB2-Daughter Top Overlay PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-384	6 of 9	Part #7542 PCB2-Daughter Bottom Overlay PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-384	7 of 9	Part #7542 PCB2-Daughter Top Paste PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-384	8 of 9	Part #7542 PCB2-Daughter Bottom Paste PCB ARTWORK	1	2014-07-07
ZUQPTY4FSNWN-191-384	9 of 9	Part #7542 PCB2-Daughter Board Outline PCB ARTWORK	1	2014-07-07

Note: An “\*” is added before the title of documents that are new or revised.

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