



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

Certificate No.: **IECEX ITA 14.0036X** Page 1 of 5 Certificate history:
Status: **Current** Issue No: 2 [Issue 1 \(2017-06-09\)](#)
Date of Issue: 2021-08-20 [Issue 0 \(2015-02-12\)](#)
Applicant: **Nautitech Mining Systems Pty Ltd**
Unit 3, 9 Packard Avenue
Castle Hill NSW 2154
Australia
Equipment: **Power Supply Module (PSM)**
Optional accessory:
Type of Protection: **Intrinsic Safety "ia", Encapsulation "mb"**
Marking: Ex mb [ia] I Mb (Um Applied)
Ex ia I Ma (Um Withdrawn)
-20C<Ta<+60C
Rated voltage: 7-18V
Rated Current: 7A

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

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Certificate issued by:

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



TESTING & CERTIFICATION



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Manufacturer: **Nautitech Mining Systems Pty Ltd**
Unit 3, 9 Packard Avenue
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 60079-0:2011 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 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 Reports:

[AU/ITA/ExTR14.0033/00](#)

[AU/ITA/ExTR15.0001/00](#)

Quality Assessment Report:

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



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Power Supply Module (PSM)

Base design 12001 forming the following types:

Type 12004 PSM Local Control (PSL)

Type 12005 PSM Remote Control (PSR)

Type 12006 PSM Extended Control (PSE)

The Power Supply Module (PSM) is a purpose built apparatus that may be present in a configurable instrumented system built to achieve a safety and/or a control function. The complete instrumented system may use several modules, where the modules are mechanically and electrically connected to each other using header-socket connections on the compatible sides that mate with each other, and the modules are fastened together to form one assembly.

For further details, see the Annexe.

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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Additional information:

Job 21105

Annex:

[IECEX ITA 14.0036X-2 Annex final.pdf](#)

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Description:

Continued from the 'Equipment' section of the certificate:

A typical configuration of the instrumented system may contain a power supply module which connects to a suitably certified input source (usually alternator or other mains connected power source) and after its voltage and current limitation delivers power on a '4 Pin Power Rail' through all the modules, thus forming a backplane based connection system. This high power rail with $U_o = 20\text{ V}$ and $I_o = 11.9\text{ A}$ is adequately segregated between the active and return lines, and also segregated from all other circuits, connection pins are duplicated and all the modules are fastened together to prevent sparking to be considered.

The backplane also contains four (4) selectable Exia Power Buses delivered by the PSM, UPS or compatible module. The Exia Buses ($U_o 8.95\text{ V}$ to 2.4 A) are suitably segregated and each galvanically isolated to prevent combinations of circuits and energy.

When Zone 0 conditions are not present, the Alternator input ($U_m = 90\text{ V}$) may be applied to power the PSM module to provide backplane power. When Zone 0 conditions are present, the Alternator input must not be supplied to the PSM and the PSM module may derive power from a suitably certified Zone 0 compatible module.

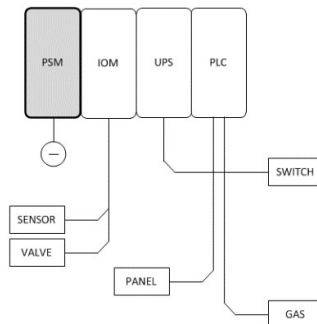
There are also 24 intrinsically safe, adequately segregated data circuits carried through the '24 Pin Signal Rail' to all the modules completing the communications on the backplane.

The PSM Module contains several internal printed circuit boards interconnected to each other. It is totally encapsulated except for the keypad switches and LCD display on the front (user available) surface of the module.

The Base design 12001 forms the following types:

PSM Local Control (PSL), Type 12004

This is also referred to as CX004-xxx. It contains the full complement of circuits including alternator input, power input regulation, 9V bus power supply, power supplies for the data circuits as well as potential to start up autonomously (control is local) as soon as mains power is available.



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PSM Remote Control (PSR), Type 12005

This is also referred to as CX005-xxx. It excludes the alternator input, regulation circuits and power supplies for data circuits. The intrinsically safe power is derived from the Backplane 4 Pin Power Rail, and may be configured to be controlled remotely using commands sent from a compatible module (e.g. PLC or IOM)

PSM Extended Control (PSE), Type 12006

This is also referred to as CX006-xxx. This is similar to the PSL, including the facility for alternator power regulation for the 4 feedthrough. It excludes the power supplies for data circuits. The intrinsically safe power may be configured to be controlled remotely using commands sent from a compatible module (e.g. PLC or IOM).

In all variants of the product the 4 – Pin Power Rail is infallibly separated from all other circuits in the backplane and is delivered across the backplane through a set of redundant connections each capable of carrying full rated power where it may be utilized in other compatible modules e.g. to charge batteries. The use of redundant connections increases system performance in normal operation while adding robustness and increasing reliability in tough environments.

Specific Conditions of Use pertaining to Issue 0 of this certificate:

1. The PSM must be installed with a compatible module on either side or end plates to form a complete system.
2. The parameters provided below shall be taken into account in installation. Consult the manufacturer for assistance and advice.

Table 1.2

Internal Connectors (Backplane) J1, J2 *Note 2							
Description	Circuit	Pin	Function	12004 PSL		12005 PSR 12006 PSE	
				Output Circuit *Note 1	Input Circuit *Note 1	Output Circuit *Note 1	Input Circuit *Note 1
Exia 9 pin Power Rail	BUS A	1	POWER_A	Output Circuit *Note 1	Input Circuit *Note 1	Output Circuit *Note 1	Input Circuit *Note 1
		2	GROUND_A				
	BUS B	7	POWER_B				
		4	GROUND_B				
	BUS C	3	POWER_C				
		6	GROUND_C				
	BUS D	8	POWER_D				
9		GROUND_D					
Not Connected	5	Not Connected	Not connected		Not connected		

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Exia 24 Pin Signal Rail	Datalogger /Non Safety CAN BUS	10	CANH_NS	U _o = 9V I _o = 1.39A P _o = 3.06W C _o = 54.15uF L _o = 30uH	U _i = 9V C _i = 3uF L _i = 0uH
		11	CANL_NS		
		28	CANH_DL		
		29	CANL_DL		
		19	DATA CAN POWER		
		12	DATA CAN GROUND		
	UPS Toggle	30	TOGGLE_1	U _i = 9V	U _i = 9V
			33	TOGGLE_GROUND	Feed through only
		31	TOGGLE_2	U _i = 9V	U _i = 9V
			33	TOGGLE_GROUND	Feed through only
		32	TOGGLE_3	U _i = 9V	U _i = 9V
	33		TOGGLE_GROUND	Feed through only	Feed through only
	Safety CAN BUS	13	CANH_S	U _i = 9V	U _i = 9V
			14	CANL_S	Feed through only
		26	SAFETY CAN POWER	U _i = 9V	U _i = 9V
			25		
	Heartbeat	17	DATAH	U _i = 9V	U _i = 9V
			16	DATAL	Feed through only
	CAN BUS Bridge A	27	CANH_BA	U _i = 9V	U _i = 9V
			21	CANL_BA	Feed through only
CAN BUS Bridge B	22	CANH_BB	U _i = 9V	U _i = 9V	
		23	CANL_BB	Feed through only	Feed through only
Spare	15	Reserved for future module	U _i = 9V	U _i = 9V	
		18	Reserved for future module	Feed through only	Feed through only
	20	Reserved for future module	U _i = 9V	U _i = 9V	
		24	Reserved for future module	Feed through only	Feed through only
4 Pin Power Rail	Charging Terminals	37	Ground	Type 12004: Output only. No feedthrough	Type 12005: Input only With feedthrough
		36			
		35	Power		

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		34		$U_n = 20V$ $I_n = 11.9A$ Pins in J1 populated Pins in J2 not populated	$U_n = 20V$ $I_n = 11.9A$ Pins in J1 populated Pins in J2 populated Type 12006: Output only No feedthrough $U_n = 20V$ $I_n = 11.9A$ Pins in J1 populated Pins in J2 not populated
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Note 1: Entity parameters that depend of the position of the configuration jumpers are shown in the tables below.

The U_n 20V and I_n 11.9A are allowable nominal voltages and currents in Ex ia conditions

Note 2: J1 and J2 form a back plane through each module with all signals passing through unless stated otherwise.

Each circuit in the PSM modules shall use one set of configuration jumpers to source power from only one Power Bus.

If more than one circuit is configured to source power from the same Power Bus the internal capacitance and inductance from each circuit shall be combined.

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Table 1.3

Permitted configurations	PSM Output #1	PSM Output #2	PSM Output #3	PSM Output #4	PSM Output #5
Jumpers populated	JP2_1 JP2_2	JP2_3 JP2_4	JP2_5 JP2_6	JP2_7 JP2_8	
BUS A	$U_o = 8.95V$ $I_o = 2.4A$ $C_o = 72.3\mu F$ $L_o = 30\mu H$	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only
BUS B	$U_i = 9V$ Feed through only	$U_o = 8.95V$ $I_o = 2.4A$ $C_o = 72.3\mu F$ $L_o = 30\mu H$	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only
BUS C	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_o = 8.95V$ $I_o = 2.4A$ $C_o = 72.3\mu F$ $L_o = 30\mu H$	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only
BUS D	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_o = 8.95V$ $I_o = 2.4A$ $C_o = 72.3\mu F$ $L_o = 30\mu H$	$U_i = 9V$ Feed through only

Table 1.4

Permitted configurations	PSM Input #1	PSM Input #2	PSM Input #3	PSM Input #4	PSM Input #5
Jumpers populated	JP1_1 JP1_2	JP1_3 JP1_4	JP1_5 JP1_6	JP1_7 JP1_8	
BUS A	$U_i = 9V$ $C_i = 5.5\mu F$ $L_i = \text{Neg}$	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only
BUS B	$U_i = 9V$ Feed through only	$U_i = 9V$ $C_i = 5.5\mu F$ $L_i = \text{Neg}$	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only
BUS C	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_i = 9V$ $C_i = 5.5\mu F$ $L_i = \text{Neg}$	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only
BUS D	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_i = 9V$ Feed through only	$U_i = 9V$ $C_i = 5.5\mu F$ $L_i = \text{Neg}$	$U_i = 9V$ Feed through only

The PSM shall be configured using two sets of configuration jumpers, one to supply power to only one Power Bus and one to source power from only one Power Bus.

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If the two sets of configuration jumpers select the same Power Bus the Lumped output parameters shall be reduced by the lumped input parameters.

Table 1.5

External Cable				Entity Parameters
Description	Circuit	Pin	Function	12004, 12006
Integral Power Cable	IN	1	PowerIn	Um: 90V*
		2	PowerIn	
		3	GND	
		4	GND	
	OUT	1	PowerOut	Um: 90V*
		2	PowerOut	
		3	GND	
		4	GND	

* The Um 90V is a non-intrinsically safe voltage and current that is only allowed in Zone 1 conditions

- When Zone 0 conditions are not present, the Alternator input ($U_m = 90V$) may be applied to power the PSM module to provide backplane power. When Zone 0 condition are present, the Alternator input must not be supplied to the PSM and the PSM module may derive power from only a suitably certified Zone 0 compatible module.

Drawings Associated with the Issue 0 of this Certificate:

Manufacturer's Documents				
Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date:
PSM				
ZUQPTY4FSNWN-191-333	1 of 40	Part# 12001-1.1 Power Supply Module (PSM) COVERSHEET	1	2014-10-02
ZUQPTY4FSNWN-191-333	2 of 40	Part# 7593-1.0 UPS PCB2 MAIN LEFT COVER SHEET SCHEMATIC	1	2014-10-02
ZUQPTY4FSNWN-191-333	3 of 40	Part# 7595-1.0 UPS PCB3 DAUGHTER RIGHT COVERSHEET SCHEMATIC	1	2014-10-17

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ZUQPTY4FSNWN-191-333	4 of 40	Part# 7597-1.0 UPS PCB4 DAUGHTER LEFT COVERSHEET SCHEMATIC	1	2014-10-02
ZUQPTY4FSNWN-191-333	5 of 40	Part# 7599-1.0 UPS PCB5 FLYBACK SCHEMATIC	1	2014-10-02
ZUQPTY4FSNWN-191-333	6 of 40	Part# 7535-1.1 PSL-PCB1-IPC SCHEMATIC	1	2014-05-05
ZUQPTY4FSNWN-191-333	7 of 40	Part# 7535-1.0 Alternator Protection Circuit SCHEMATIC	1	2014-10-10
ZUQPTY4FSNWN-191-333	8 of 40	Part# 7535-1.0 Pre-Regulator DC-DC Converter SCHEMATIC	2	2014-09-06
ZUQPTY4FSNWN-191-333	9 of 40	Part# 7610-1.0 PSM Power SCHEMATIC	1	2014-12-16
ZUQPTY4FSNWN-191-333	10 of 40	Part# DS_HT-1.0 Infallible Voltage Shunt SCHEMATIC	1	2014-12-18
ZUQPTY4FSNWN-191-333	11 of 40	Part# DS_HF-1.0 IS Barrier 6R8 SCHEMATIC	1	2014-10-23
ZUQPTY4FSNWN-191-333	12 of 40	Part# DS_HJ-1.0 Backplane_CAN_PS SCHEMATIC	1	2014-10-23
ZUQPTY4FSNWN-191-333	13 of 40	Part# DS_HP-1.0 Inrush limiter SCHEMATIC	1	2014-12-05
ZUQPTY4FSNWN-191-333	14 of 40	Part# DS_HK-1.0 I2C Current+Voltage Sense with GPIO SCHEMATIC	1	2014-10-24
ZUQPTY4FSNWN-191-333	15 of 40	Part# DS_EZ-1.1 Safety Shunt Circuit SCHEMATIC	3	2012-12-05

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ZUQPTY4FSNWN-191-333	16 of 40	Part# DS_BH-1.0 OPTO I2C Um:9V SCHEMATIC	1	2013-07-01
ZUQPTY4FSNWN-191-333	17 of 40	Part# DS_AM-1 OPTO-2CH-Ui_9V-5V-3V3_ISIS SCHEMATIC	2	2014-02-27
ZUQPTY4FSNWN-191-333	18 of 40	Part# DS_AN-1 OPTO-2CH-Ui_9V-3V-5V_ISIS SCHEMATIC	2	2014-02-27
ZUQPTY4FSNWN-191-333	19 of 40	Part# 7595-1.0 PUSH BUTTON & PRESSURE SWITCH SCHEMATIC	1	2014-11-25
ZUQPTY4FSNWN-191-333	20 of 40	Part# DS_AZ-1.0 I2C Opto Isolation NIS-IS SCHEMATIC	2	2014-06-03
ZUQPTY4FSNWN-191-333	21 of 40	Part# DS_FL-1.0 Isolated Voltage Monitor SCHEMATIC	1	2014-07-08
ZUQPTY4FSNWN-191-333	22 of 40	Part# DS_FK-1.0 DIG IO OPTO BARRIER SCHEMATIC	1	2013-01-23
ZUQPTY4FSNWN-191-333	23 of 40	Part# DS_HB-1.0 BARRIER SCHEMATIC	1	2014-09-30
ZUQPTY4FSNWN-191-333	24 of 40	Part# DS_HE-1.0 DIG IO OPTO BARRIER SCHEMATIC	1	2013-01-23
ZUQPTY4FSNWN-191-333	25 of 40	Part# 7596-1.0 UPS_uP_App_Board SCHEMATIC	1	2013-05-01
ZUQPTY4FSNWN-191-333	26 of 40	Part# 7596-1.0 SAFEPSU SCHEMATIC	2	2014-03-06
ZUQPTY4FSNWN-191-333	27 of 40	Part# 7596-1.0 PSU_1V2 SCHEMATIC	2	2014-03-06

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ZUQPTY4FSNWN-191-333	28 of 40	Part# 7596-1.0 PSU_3V3 SCHEMATIC	2	2014-03-06
ZUQPTY4FSNWN-191-333	29 of 40	Part# 7596-1.0 PSU_5V0 SCHEMATIC	1	2014-03-06
ZUQPTY4FSNWN-191-333	30 of 40	Part# DS_BT-1.0 MEMORY_SPI_FLASH_4MB SCHEMATIC	1	2013-06-25
ZUQPTY4FSNWN-191-333	31 of 40	Part# DS_BR-1.0 SAFETY µP SCHEMATIC	1	2013-05-29
ZUQPTY4FSNWN-191-333	32 of 40	Part# DS_BS-1.0 Sensor - Temperature - Analog SCHEMATIC	1	2013-06-25
ZUQPTY4FSNWN-191-333	33 of 40	Part# DS_BQ-1.0 BQ_SENSOR-RTC-I2C-0x68-No Coin Cell SCHEMATIC	1	2013-06-25
ZUQPTY4FSNWN-191-333	34 of 40	Part# DS_EB-1.0 ISOLATED CAN TRANSCEIVER SCHEMATIC	2	2014-05-12
ZUQPTY4FSNWN-191-333	35 of 40	Part# DS_AV-1.0 IS BARRIER Ui_9V Ci_5.5uF Po_<3.15W SCHEMATIC	1	2013-08-12
ZUQPTY4FSNWN-191-333	36 of 40	Part# DS_EY-1.0 Isolated Flyback SCHEMATIC	1	2014-09-23
ZUQPTY4FSNWN-191-333	37 of 40	Part# DS_EF-1.0 CUBEx_BACKPLANE_LEFT SCHEMATIC	2	2013-07-22
ZUQPTY4FSNWN-191-333	38 of 40	Part# DS_EF-1.0 CUBEx_BACKPLANE_RIGHT SCHEMATIC	1	2013-07-22
ZUQPTY4FSNWN-191-333	39 of 40	Part# DS_HR-1.0 PSU LDO SCHEMATIC	1	2014-12-05

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ZUQPTY4FSNWN-191-333	40 of 40	Part# DS_HS-1.0 Current Limiter SCHEMATIC	1	2014-12-05
ZUQPTY4FSNWN-48-2175	1	PART 12004-2 PSM Local Control (PSL) Certification Detail	1	2014-05-26
ZUQPTY4FSNWN-48-2178	1	PART 12004-1 PSM Local Control (PSL) Datasheet	1	2014-02-26
ZUQPTY4FSNWN-48-2176	1	PART 12005-1 PSM Remote Control (PSR) Certification Detail	1	2014-05-26
ZUQPTY4FSNWN-48-2180	1	PART 12005-1 PSM Remote Control (PSR) Datasheet	1	2014-02-26
ZUQPTY4FSNWN-48-2179	1	PART 12006-1 PSM Extended Control (PSE) Certification Detail	1	2014-05-26
ZUQPTY4FSNWN-48-2181	1	PART 12006-1 PSM Extended Control (PSE) Datasheet	1	2014-02-26
ZUQPTY4FSNWN-191-441	1	Part# 12001-1 Ex ia Block Diagram Schematic	1	2014-12-16
ZUQPTY4FSNWN-191-470	9	Part# 7534-1.1 PSM PCB1 MAIN RIGHT <i>(All layers)</i> PCB Artwork	1	2014-12-02

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ZUQPTY4FSNWN-191-461	9	Part# 7592-1.0 UPS PCB2 MAIN LEFT <i>(All layers)</i> PCB Artwork	1	2014-12-02
ZUQPTY4FSNWN-191-475	9	Part# 7592-1.1 UPS PCB2 MAIN LEFT <i>(Set of PCB Artworks)</i>	1	2015-01-27
ZUQPTY4FSNWN-191-460	9	Part# 7594-1.0 PCB3 ISOLATION RIGHT <i>(All layers)</i> PCB Artwork	1	2014-12-02
ZUQPTY4FSNWN-191-462	9	Part# 7596-1.0 PCB4-CPU LEFT <i>(All layers)</i> PCB Artwork	1	2014-12-02
ZUQPTY4FSNWN-191-465	9	Part# 7598-1.0 UPS PCB5 FLYBACK <i>(All layers)</i> PCB Artwork	1	2014-12-02
ZUQPTY4FSNWN-191-471	6	Part# 7609-1.0 PSM POWER BREAKOUT BOARD <i>(All layers)</i> PCB Artwork	1	2014-12-02
UIFP Faceplate				
ZUQPTY4FSNWN-191-448	1 of 7	Part# 2181-936 - 2.0 CUBEx UI Faceplate SCHEMATIC	1	2014-03-06
ZUQPTY4FSNWN-191-448	2 of 7	Part# 7521-1.2 UIFP Main PCB SCHEMATIC	1	2015-01-12
ZUQPTY4FSNWN-191-448	3 of 7	Part# 7521-1.2 UIFP Load SCHEMATIC	1	2015-01-12
ZUQPTY4FSNWN-191-448	4 of 7	Part# 7521-1.2 UIFP LCD SCHEMATIC	1	2015-01-12

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ZUQPTY4FSNWN-191-448	5 of 7	Part# 7525-1.0 UIFP FLEX Keypad SCHEMATIC	1	2014-02-11
ZUQPTY4FSNWN-191-448	6 of 7	Part# DS_BZ-1 IS BARRIER Keypad SCHEMATIC	1	2014-01-08
ZUQPTY4FSNWN-191-448	7 of 7	Part# DS_EJ-1 Bluetooth 4.0 BLE SCHEMATIC	1	2014-03-06
ZUQPTY4FSNWN-191-449	10	Part# 7520 UIFP Main PCB (all layers) PCB Artwork	1	2015-01-12
ZUQPTY4FSNWN-191-450	6	Part# 7525 UIFP FLEX Keypad (all layers) PCB Artwork	1	2015-01-12
ZUQPTY4FSNWN-191-445	1	Part 2181-936-2 UIFP CERTIFICATION DETAIL	1	2013-07-30

Variations permitted by Issue 1 of this certificate:

1. The applicant and manufacturer have changed to NTMS.
2. Revised QAR reference to AU/ITA/QAR08.0004/09 to include this equipment in the scope of the audit of the manufacturer.
3. The manufacturer has submitted a complete set of drawings which have been retitled with their name. Where the drawing contained pictures showing the name of the earlier manufacturer, these have been edited to that extent. No other changes were made, and the revised drawing list is included below.
4. There are no changes in the parameters or conditions from the earlier issue of the certificate.

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

There are no changes to the conditions of use.

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Drawings Associated with the Issue 1 of this Certificate:

Manufacturer's Documents				
Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date:
PSM				
ZUQPTY4FSNWN-191-333	1 of 40	12001 Power Supply Module (PSM)	1.2	2014-10-02
ZUQPTY4FSNWN-191-333	2 of 40	7593 UPS PCB2 MAIN LEFT COVERSHEET	1.1	2014-10-02
ZUQPTY4FSNWN-191-333	3 of 40	7595 UPS PCB3 DAUGHTER RIGHT COVERSHEET	1.1	2014-10-17
ZUQPTY4FSNWN-191-333	4 of 40	7597 UPS PCB4 DAUGHTER LEFT COVERSHEET	1.1	2014-10-02
ZUQPTY4FSNWN-191-333	5 of 40	7599 UPS PCB5 FLYBACK	1.1	2014-10-02
ZUQPTY4FSNWN-191-333	6 of 40	7535 PSL-PCB1-IPC	1.2	2014-05-05
ZUQPTY4FSNWN-191-333	7 of 40	7535 Alternator Protection Circuit	1.1	2014-10-10
ZUQPTY4FSNWN-191-333	8 of 40	7535 Pre-Regulator DC-DC Converter	2.1	2014-09-06
ZUQPTY4FSNWN-191-333	9 of 40	7610 PSM Power	1.1	2014-12-16
ZUQPTY4FSNWN-191-333	10 of 40	DS_HT Infallible Voltage Shunt	1.1	2014-12-18
ZUQPTY4FSNWN-191-333	11 of 40	DS_HF IS Barrier 6R8	1.1	2014-10-23
ZUQPTY4FSNWN-191-333	12 of 40	DS_HJ Backplane_CAN_PS	1.1	2014-10-23
ZUQPTY4FSNWN-191-333	13 of 40	DS_HP Inrush limiter	1.1	2014-12-05

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Manufacturer's Documents

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date:
ZUQPTY4FSNWN-191-333	14 of 40	DS_HK I2C Current+Voltage Sense with GPIO	1.1	2014-10-24
ZUQPTY4FSNWN-191-333	15 of 40	DS_EZ Safety Shunt Circuit	3.1	2012-12-05
ZUQPTY4FSNWN-191-333	16 of 40	DS_BH OPTO I2C Um:9V	1.1	2013-07-01
ZUQPTY4FSNWN-191-333	17 of 40	DS_AM OPTO-2CH-Ui_9V-5V-3V3_ISIS	2.1	2014-02-27
ZUQPTY4FSNWN-191-333	18 of 40	DS_AN OPTO-2CH-Ui_9V-3V-5V_ISIS	2.1	2014-02-27
ZUQPTY4FSNWN-191-333	19 of 40	7595 PUSH BUTTON & PRESSURE SWITCH	1.1	2014-11-25
ZUQPTY4FSNWN-191-333	20 of 40	DS_AZ I2C Opto Isolation NIS-IS	2.1	2014-06-03
ZUQPTY4FSNWN-191-333	21 of 40	DS_FL Isolated Voltage Monitor	1.1	2014-07-08
ZUQPTY4FSNWN-191-333	22 of 40	DS_FK DIG IO OPTO BARRIER	1.1	2013-01-23
ZUQPTY4FSNWN-191-333	23 of 40	DS_HB BARRIER	1.1	2014-09-30
ZUQPTY4FSNWN-191-333	24 of 40	DS_HE DIG IO OPTO BARRIER	1.1	2013-01-23
ZUQPTY4FSNWN-191-333	25 of 40	7596 UPS_uP_App_Board	1.1	2013-05-01
ZUQPTY4FSNWN-191-333	26 of 40	7596 SAFEPUSU	2.1	2014-03-06

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Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date:
ZUQPTY4FSNWN-191-333	27 of 40	7596 PSU_1V2	2.1	2014-03-06
ZUQPTY4FSNWN-191-333	28 of 40	7596 PSU_3V3	2.1	2014-03-06
ZUQPTY4FSNWN-191-333	29 of 40	7596 PSU_5V0	1.1	2014-03-06
ZUQPTY4FSNWN-191-333	30 of 40	DS_BT MEMORY_SPI_FLASH_4MB	1.1	2013-06-25
ZUQPTY4FSNWN-191-333	31 of 40	DS_BR SAFETY μ P	1.1	2015-03-10
ZUQPTY4FSNWN-191-333	32 of 40	DS_BS Sensor - Temperature - Analog	1.1	2013-06-25
ZUQPTY4FSNWN-191-333	33 of 40	DS_BQ BQ_SENSOR-RTC-I2C-0x68-No Coin Cell	1.1	2013-06-25
ZUQPTY4FSNWN-191-333	34 of 40	DS_EB ISOLATED CAN TRANSCEIVER	2.1	2014-05-12
ZUQPTY4FSNWN-191-333	35 of 40	DS_AV IS BARRIER U_i _9V C_i _5.5 μ F P_o <3.15W	1.1	2013-08-12
ZUQPTY4FSNWN-191-333	36 of 40	DS_EY Isolated Flyback	1.1	2014-09-23
ZUQPTY4FSNWN-191-333	37 of 40	DS_EF CUBEx_BACKPLANE_LEFT	2.1	2013-07-22
ZUQPTY4FSNWN-191-333	38 of 40	DS_EF CUBEx_BACKPLANE_RIGHT	1.1	2013-07-22
ZUQPTY4FSNWN-191-333	39 of 40	DS_HR PSU LDO	1.1	2014-12-05

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Manufacturer's Documents

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ZUQPTY4FSNWN-191-333	40 of 40	DS_HS Current Limiter	1.1	2014-12-05
12004-A	1 of 2	PSM Local Control (PSL) Certification Detail	2	2017-02-27
12004-A	2 of 2	PSM Local Control (PSL) Datasheet	2	2017-02-27
12005-A	1 of 2	PSM Remote Control (PSR) Certification Detail	2	2017-02-28
12005-A	2 of 2	PSM Remote Control (PSR) Datasheet	2	2017-02-28
12006-A	1 of 2	PSM Extended Control (PSE) Certification Detail	2	2017-02-28
12006-A	2 of 2	PSM Extended Control (PSE) Datasheet	2	2017-02-28
ZUQPTY4FSNWN-191-470	9	Part # 7534 PSM PCB1 MAIN RIGHT <i>(All layers)</i> PCB Artwork	1.2	2014-12-02
ZUQPTY4FSNWN-191-461	9	Part # 7592 UPS PCB2 MAIN LEFT <i>(All layers)</i> PCB Artwork	2.1	2014-12-02
ZUQPTY4FSNWN-191-475	9	Part # 7592 UPS PCB2 MAIN LEFT <i>(All layers)</i> PCB Artwork	2.2	2015-01-27
ZUQPTY4FSNWN-191-460	9	Part # 7594 PCB3 ISOLATION RIGHT <i>(All layers)</i> PCB Artwork	1.1	2014-12-02

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ZUQPTY4FSNWN-191-462	9	Part # 7596 PCB4-CPU LEFT <i>(All layers)</i> PCB Artwork	1.1	2014-12-02
ZUQPTY4FSNWN-191-465	9	Part # 7598 UPS PCB5 FLYBACK <i>(All layers)</i> PCB Artwork	1.1	2014-12-02
ZUQPTY4FSNWN-191-471	6	Part # 7609 PSM POWER BREAKOUT BOARD <i>(All layers)</i> PCB Artwork	1.1	2014-12-02
UIFP Faceplate				
ZUQPTY4FSNWN-191-448	1 of 7	2181-936 CUBEx UI Faceplate SCHEMATIC	2.1	2014-03-06
ZUQPTY4FSNWN-191-448	2 of 7	7521 UIFP Main PCB SCHEMATIC	1.3	2015-01-12
ZUQPTY4FSNWN-191-448	3 of 7	7521 UIFP Load SCHEMATIC	1.3	2015-01-12
ZUQPTY4FSNWN-191-448	4 of 7	7521 UIFP LCD SCHEMATIC	1.3	2015-01-12
ZUQPTY4FSNWN-191-448	5 of 7	7525 UIFP FLEX Keypad SCHEMATIC	1.1	2014-02-11
ZUQPTY4FSNWN-191-448	6 of 7	DS_BZ IS BARRIER Keypad SCHEMATIC	1.1	2014-01-08
ZUQPTY4FSNWN-191-448	7 of 7	DS_EJ Bluetooth 4.0 BLE SCHEMATIC	1.1	2014-03-06
ZUQPTY4FSNWN-191-449	10	Part# 7520 UIFP Main PCB <i>(all layers)</i> PCB Artwork	1.3	2015-01-12

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Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date:
ZUQPTY4FSNWN-191-450	6	Part# 7525 UIFP FLEX Keypad (all layers) PCB Artwork	1.1	2015-01-12
2181-936-A	1	UIFP CERTIFICATION DETAIL	2	2017-03-02

Variations permitted by Issue 2 of this certificate:

- 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 2 of this certificate:

There are no changes to the conditions of use.

Drawings Associated with the Issue 2 of this Certificate:

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