



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 09.0004X** Page 1 of 5 Certificate history:
Status: **Current** Issue No: 2 [Issue 1 \(2012-05-08\)](#)
Date of Issue: 2021-08-18 [Issue 0 \(2009-02-23\)](#)
Applicant: **Nautitech Mining Systems Pty Ltd**
Unit 3 9 Packard Avenue
Castle Hill, 2154, NSW
Australia
Equipment: **CAN GAUGE CT5002AA[xx-yy]**
Optional accessory:
Type of Protection: **Intrinsic Safety "ia"**
Marking: Ex ia I / IIB T4 Ma Ga
IECEX ITA 09.0004X

Approved for issue on behalf of the IECEx
Certification Body:

Ajay Maira

Position:

Certification Authority

Signature:
(for printed version)

Ajay Maira

Date:

2021-08-18

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 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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Manufacturer: **Nautitech Mining Systems Pty Ltd**
Unit 3 9 Packard Avenue
Castle Hill, 2154, NSW
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 60079-0:2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
Edition:4.0

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 Reports:

[AU/ITA/ExTR09.0005/00](#)

[AU/ITA/ExTR09.0005/01](#)

Quality Assessment Report:

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



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The CAN GAUGE CT5002AA [XX-YY] are designed to provide Digital Data related to measured field values, diagnostics and status of the device. The apparatus comes in two types of enclosure: a single channel module and up to 12 channel module.

The single channel module comprises an interface board, a bottom board, a top board fitted with an optional Liquid Crystal Display and either up to 50 integral float boards or a gas connection boards, all housed in a metallic enclosure fitted with either integral flying leads or plug and sockets mounted in the wall of the enclosure for the connection of external circuits and an optional window.

The CAN Gauge Concentrator types are totally encapsulated modules that comprises up to 12 Standard Can Gauge modules mounted in the same stainless steel enclosure with the exception of the loop power input connection, with each can gauge output separated from adjacent circuits.

The model references are detailed in the manufacturers instruction manual noting that Gas CAN Gauge Type CT5002AA [XX-01] is only to be used in Group I atmospheres in ambient temperatures up to 40oC

The combinations covered are identified by AA[xx-yy] associated with the model reference identified as follows:

AA = 00 to ZZ Device configuration not effecting Certification

XX

= 01 Gas Sensor fitted. = 02 Float Sensor fitted = 03 External Sensing.

= 04 to 15 Concentrator with 1 up to 12 Concentrator units fitted

YY

= 01 Plug/Socket connections = 02 Flying leads

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 09.0004X-2 Annex final.pdf](#)

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Annexe



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Description:

As provided in 'Equipment' 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

1.1 Inputs

CT5002AA [01-YY]		
CT5002AA [02-YY]		
CT5002AA [03-YY] "BUS Power + CAN"		
Ui =	8.9	V
Ci =	2.3	uF
Li =	Negligible	mH

CT5002AA [04-YY] to CT5002AA [15-YY] "BUS Power + CAN"		
Ui =	8.9	V
Pi =	25	W
Ci =	***	uF
Li =	Negligible	mH

*** See table below. The C_i is determined from the number of CAN Concentrator units fitted see table below;

*** CAN Concentrator Model Number	Ci
CT5002AA [04-YY]	2.3 uF
CT5002AA [05-YY]	4.6 uF
CT5002AA [06-YY]	6.9 uF
CT5002AA [07-YY]	9.2 uF
CT5002AA [08-YY]	11.5 uF
CT5002AA [09-YY]	13.8 uF
CT5002AA [10-YY]	16.1 uF
CT5002AA [11-YY]	18.4 uF
CT5002AA [12-YY]	20.7 uF
CT5002AA [13-YY]	23.0 uF
CT5002AA [14-YY]	25.3 uF
CT5002AA [15-YY]	27.6 uF

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1.2 Outputs

Multiple Output Version CT5002AA-[03-YY] "Sensor"		
U _o =	8.9	V
I _o =	As supply	
P _o =	1.92	W
C _i =	30	uF
L _i =	Negligible	

Concentrator Versions CT5002AA-[04-YY] to CT5002AA-[15-YY] Per Channel "Sensor"		
U _o =	8.9	V
I _o =	As supply	
P _o =	1.92	W
C _i =	30	uF
L _i =	Negligible	mH

2. The Gas CAN Gauge Type CT5002AA [01-YY] is only to be used in Group I atmospheres in ambient temperatures up to 40 °C.

3. When fitted with an integral cable the electrical connections to the integral cable must be housed within a suitable enclosure offering a degree of protection not less than IP20.

Drawing list pertaining to Issue 0 of this Certificate:

Manufacturer's Documents

Title:	Drawing No.:	Pages	Rev. Level:	Date:
CAN Gauge	ExMD500201 Sheets 1 & 2	2	1.0	2008-11-20
CAN Gauge Concentrator	ExMD500202 Sheets 1 & 2	2	1.0	2008-11-26
CAN Gauge Float Level Sensor	ExMD500203 Sheets 1 & 2	2	1.0	2008-12-04
CAN Gauge Gas - Sensor	ExMD500219 Sheets 1 & 2	2	1.0	2008-12-04
CAN Gauge 3 Length Magnetic Measurement	ExMD500239	1	1.0	2008-12-05
CAN GAUGE IS Markings	ExMK500201 Sheets 1 to 4	4	1.0	2008-11-25
CAN GAUGE Display – Float - Encapsulation	ExNTD500201-01	1	1.0	2008-12-08

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Title:	Drawing No.:	Pages	Rev. Level:	Date:
CAN Concentrator	ExNTD500203-01	1	1.0	2008-12-30
CAN GAUGE Bottom PCB	ExpPB127201-04	1	1.0	2008-09-30
CAN GAUGE Top PCB	ExpPB127202-05	1	1.0	2008-12-24
CAN GAUGE Float PCB	ExpPB127203-03	1	1.0	2008-11-18
CAN GAUGE Bottom Gas Detection PCB	ExpPB127205-02	1	1.0	2008-09-30
CAN GAUGE Gas Connection PCB	ExpPB127206-02	1	1.0	2008-12-08
CAN GAUGE Interconnection PCB	ExpPB127207-01	1	1.0	2008-11-17
CAN GAUGE Interconnection PCB (Std Bottom PCB)	ExpPB127208-01	1	1.0	2008-12-29
CAN GAUGE Interconnection PCB (Multi Bottom PCB)	ExpPB127209-01	1	1.0	2008-12-29
CAN GAUGE Bottom PCB	ExpPBS127201-04 Sheets 1 & 2	2	1.0	2008-11-25
CAN GAUGE Top PCB	ExpPBS127202-05	1	1.0	2008-11-25
CAN GAUGE Float PCB	ExpPBS127203-03	1	1.0	2008-11-25
CAN GAUGE Bottom Gas PCB	ExpPBS127205-02 Sheets 1 & 2	2	1.0	2008-11-25
CAN GAUGE Gas Connection PCB	ExpPBS127206-02	1	1.0	2008-12-08
CAN GAUGE Interconnection PCB	ExpPBS127207-01	1	1.0	2008-11-25
CAN GAUGE Interconnection PCB (Std Bottom PCB)	ExpPBS127208-01	1	1.0	2008-12-29
CAN GAUGE Interconnection PCB (Multi Bottom PCB)	ExpPBS127209-01	1	1.0	2008-12-29
CAN GAUGE Base Wiring Diagram	ExWD500201	1	1.0	2008-11-17
CAN GAUGE Float Wiring Diagram	ExWD500202	1	1.0	2008-11-17
CAN GAUGE Multiple Input Wiring Diagram	ExWD500203	1	1.0	2008-11-24
CAN GAUGE Gas Head Sensor Wiring Diagram	ExWD500204	1	1.0	2008-11-24
CAN Concentrator Unit Wiring Diagram	ExWD500205	1	1.0	2008-12-30

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Variations permitted by Issue 1 of this certificate:

- To include an IS Relay CT5002AA[20-01]. To provide switching functions via High voltage relays that provide galvanic isolation between the CAN Gauge electronics and the high voltage switched circuit.

The IS Relay – CT5002AA[20-01] comprises of an encapsulated CAN gauge assembly and an encapsulated Relay board containing two relays and protective components all housed in a metallic enclosure. External connections are made via integral plugs and sockets located in the wall of the enclosure for the CAN connections and a cable entry gland for the connection of the high voltage supply. (pilot line)

The Pilot connections are to be made to a Group I pilot circuit which can be considered to be a non-intrinsically safe circuit in certain circumstances. The pilot circuit connects to the switch contacts of the IS Relay – CT5002AA[20-01] and is separated from the rest of the apparatus circuits by infallible separation.

- A change of address of the applicant and manufacturing location to:

Unit 3 9 Packard Avenue, Castle Hill, 2154, NSW

Was Unit 55 4 Hoyle Ave Castle Hill, 2154, NSW

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

The IS Relay – CT500201[20-01] may only be used for connection to a Group I pilot circuit which can be considered as non-intrinsically safe under certain circumstances. This must be taken in to consideration in the installation / application.

Inputs

CT5002AA[20-YY] "BUS Power + CAN"		
$U_i =$	8.9	V
$C_i =$	2.3	μ F
$L_i =$	Negligible	mH

CT5002AA[20-01] Pilot Circuit		
$U_m =$	1,575	Vpeak
$I_m =$	1.0	A

Outputs

CT5002AA[20-01] Pilot Circuit		
$U_o =$	0	V
$I_o =$	0	A
$P_o =$	0	W
$C_i =$	Negligible	μ F
$L_i =$	Negligible	mH

Drawings Associated with the Issue 1 of this Certificate:

Manufacturer's Documents

Title:	Drawing No.:	Pages	Rev. Level:	Date:
RELAY BOARD – PILOT LINE RELAY	ExPB502005-A Sheets 1 to 4	4	1	2012-02-05
PILOT LINE RELAY	ExSH5020-2-10-001-A	2	1	2012-02-05
BOBBIN – 1.5kV ISOLATION	ME5020-0-11-003-A	1	A	2011-11-03
LABEL – PILOT LINE RELAY	ME5020-0-25-001-A	1	A	2011-11-11
FINAL ASSEMBLY-IS PILOT RELAY	ME5020-2-99-002-A Sheets 1 & 2	2	A	2012-02-07
WIRING DIAGRAM – PILOT LINE RELAY	WD502003-A	1	A	2011-11-14

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Annexe



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Issue No.:

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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.