

Certificate of Conformity

Ex EQUIPMENT

Certificate No.:	ANZEx 18.2002	Current Issue:	0	Date of Issue:	1 June 2018
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Applicant: **Gastech Australia Pty Ltd**
24 Baretta Road
WANGARA WA 6065
AUSTRALIA

Equipment: D-Guard² Intrinsically Safe Smart Gas Detector

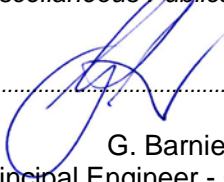
Type of Explosion Protection: Intrinsic safety "i"

Explosion Protection Marking:	Ex ia I Ma (-20 °C to +55 °C)	- All product versions
	Ex ia IIB T4 Ga (-20 °C ≤ Ta ≤ +55 °C)	- Only 65-1080-LEL; -CH4; -CO2
	Ex ia IIC T4 Ga (-20 °C ≤ Ta ≤ +70 °C)	- All except 65-1080-LEL; -CH4; -CO2

*This certificate is granted subject to the conditions as set out in
Standards Australia/Standards New Zealand Miscellaneous Publication **MP87.1***

Signed for and on behalf of issuing body

Name & Position


G. Barnier
Principal Engineer - Certification

This certificate is not transferable and remains the property of the issuing body.

The status of this certificate can be confirmed through the database located at www.anzex.com.au

Certificate issued by:

Safety in Mines, Testing and Research Station
2 Robert Smith Street, REDBANK QLD 4301

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Manufacturer : **Gastech Australia Pty Ltd**
24 Baretta Road
WANGARA WA 6065
AUSTRALIA

**Additional
Manufacturing
Location(s):** None

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 Ed 6 Explosive atmospheres Part 0: Equipment—General requirements

IEC 60079-11:2011 Ed 6 Explosive atmospheres Part 11: Equipment protection by intrinsic safety "i"

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

The equipment listed has successfully met the examination and test requirements as recorded in:

Test Report No. & Issuing Body: GB/BAS/ExTR15.0033/00, GB/BAS/ExTR15.0315/00; SGS Baseefa

Quality Assessment Report No.
& Issuing Body: AU/TSA/QAR07.0005

File Reference: 18/0019

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Schedule

Equipment Description:

The D-Guard2 Intrinsically Safe Smart Gas Detector provides gas monitoring for Oxygen, flammable and toxic gasses.

The equipment comprises; a main circuit board mounted in the lid of the enclosure; a choice of two optional terminal boards in the base of the enclosure, one with a HART communications socket mounted in the enclosure wall; and a LCD mounted on the main circuit board, visible from the outside of the enclosure. Also mounted on the main circuit board is the gas sensor, which protrudes into the lid of the enclosure with a hydrophobic barrier to prevent water ingress, but allow gas air flow. Electrical connections are either made directly to the main circuit board via P1, or to the terminal PCB in the base of the enclosure.

Model and Description

Model Type	Sensor Type	Model Number
Chlorine 0 – 10 ppm	Electro-Chemical	65-1080-CL2
Carbon Monoxide 0 – 1000 ppm	Electro-Chemical	65-1080-CO
Ethylene Oxide 0 – 20 ppm	Electro-Chemical	65-1080-ETO
Fluorine 0 – 1 ppm	Electro-Chemical	65-1080-F2
Hydrogen 0 – 2000 ppm	Electro-Chemical	65-1080-H
Hydrogen Sulphide 0 – 200 ppm	Electro-Chemical	65-1 080-H2S
Hydrogen Chloride 0 – 100 ppm	Electro-Chemical	65-1080-HCL
Hydrogen Cyanide 0 – 50 ppm	Electro-Chemical	65-1080-HCN
Ammonia 0 – 100 ppm	Electro-Chemical	65-1080-NH3
Nitric Oxide 0 – 100 ppm	Electro-Chemical	65-1080-NO
Nitrogen Dioxide 0 – 10 ppm	Electro-Chemical	65-1080-N02
Phosphine 0 – 1 ppm	Electro-Chemical	65-1080-PH3
Ozone 0 – 2 ppm	Electro-Chemical	65-1080-03
Sulphur Dioxide 0 – 10 ppm	Electro-Chemical	65-1080-S02
Oxygen 0 – 25%v/v	Galvanic Cell or Electro-Chemical	65-1080-02
Methane 0 – 5%v/v (100%LEL)	Mipex Infra-Red	65-1080-LEL
Methane 0 – 100%v/v	Mipex Infra-Red	65-1080-CH4
Carbon Dioxide 0 – 5%v/v	Mipex Infra-Red	65-1080-C02
Client Specified Type	As Required	65-1080-xxx

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Electrical Ratings/Parameters

Terminal Parameters

Group	Connector	Ui (V)	Ii (mA)	Pi (W)	Ci (μ F)	Li (mH)	Uo (V)	Io (mA)	Po (W)
I	Power	22 V	-	-	0	0	-	-	-
	Hart	28	-	-	0	0	22	#	#
II	Power	28	93	0.7	0	0	-	-	-
	Hart	28	93	0.7	0	0	28	93	0.7

= Parameter limited only by the external supply.

Specific Conditions of Use:

None

Conditions of Certification:

None

Additional Information:

The following separately certified components are included in this certification:

- IECEx BAS 10.0098U – Littkefuse 0259.062 (F1)
- IECEx ITS 11.0047U – Mipex Infra-Red sensors

Manufacturer's Documents associated with this Issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
65-1080_GA_03-01-02	3 of 3	D-Guard V2 Detector Construction and Variants	-	19/03/15
65-1080_GA_02-02-02	1 of 4	D-Guard V2 Parts and Assembly - Enclosure Lid	-	31/10/14
65-1080_GA_02-01-01	2 of 4	D-Guard V2 Parts and Assembly - Lid Fixtures	-	31/10/14
65-1080_GA_02-01-01	3 of 4	D-Guard V2 Parts and Assembly - PCB Fixing	-	31/10/14
65-1080_GA_02-02-02	4 of 4	D-Guard V2 Parts and Assembly - Field Connections	-	14/07/15
65-1080_GA_03-01-01	1 of 3	D-Guard V2 Detector Construction and Variants Enclosure Base	-	31/10/14

(Drawings continued next page)

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Document Number	Pages / Sheets	Document Title	Revision	Date
65-1080_GA_03-01-01	2 of 3	D-Guard V2 Detector Construction and Variants Splash Guard	-	31/10/14
65-1080_SCH_01-05-06	1 of 1	2-Wire Gas Monitor Platform PSU / Signals / Processing / Display	-	12/05/2015
65-1080_PCB_01-04-05	1 of 6	D-Guard V2 Gas Detector Type: Main Detector Board (Top Overlay)	1.0	14-01-2015
65-1080_PCB_01-04-05	2 of 6	D-Guard V2 Gas Detector Type: Main Detector Board (Top Layer)	1.0	14-01-2015
65-1080_PCB_01-04-05	3 of 6	D-Guard V2 Gas Detector Type: Main Detector Board (Mid Layer 1)	1.0	14-01-2015
65-1080_PCB_01-04-05	4 of 6	D-Guard V2 Gas Detector Type: Main Detector Board (Mid Layer 2)	1.0	14/01/2015
65-1080_PCB_01-04-05	5 of 6	D-Guard V2 Gas Detector Type: Main Detector Board (Bottom Layer)	1.0	14/01/2015
65-1080_PCB_01-04-05	6 of 6	D-Guard V2 Gas Detector Type: Main Detector Board (Bottom Overlay)	1.0	14/01/2015
65-1 080_GA_01-01-02	1 to 3	D-Guard V2 PCB Arrangement	-	31/10/14
65-1 080_GA_01-01-02	2 to 3	D-Guard V2 PCB Arrangement	-	31/10/14
65-1 080_GA_01-01-02	3 to 3	D-Guard V2 PCB Arrangement	-	31/10/14
65-1080_MD_02-01-01	1 of 1	D-Guard V2 Display Carrier	-	03/11/14
65-1080_SCH_02-01-02	1 of 1	2-Wire Gas Monitor Platform IR Sensor Power Filter	-	13/02/15
65-1080_PCB_02-03-04	1 of 3	D-Guard V2 Gas Detector Type: IR PSU Filter Board (Top Overlay)	3.0	14/01 /2015
65-1080_PCB_02-03-04	2 of 3	D-Guard V2 Gas Detector Type: IR PSU Filter Board (Top Layer)	3.0	14/01/2015
65-1080 PCB_02-03-04	3 of 3	D-Guard V2 Gas Detector Type: IR PSU Filter Board (Bottom Layer)	3.0	14/01/2015
65-1080_MD_01-01-01	1 of 1	D-Guard V2 - Filter PCB Potting Dam	-	31/10/14
65-1080_AD_01-01-02	1 of 1	D-Guard V2 - Filter Module Assembly	-	10/07/15
65-1080_PCB_03-03-04	1 of 4	D-Guard V2 Gas Detector Type: Display Illumination PCB (Top Overlay)	2.0	14/01 /2015
65-1080_PCB_03-03-04	2 of 4	D-Guard V2 Gas Detector Type: Display Illumination PCB (Top Layer)	2.0	14/01 /2015
65-1080_PCB_03-03-04	3 of 4	D-Guard V2 Gas Detector Type: Display Illumination PCB (Bottom Layer)	2.0	14/01/2015
65-1080_PCB_03-03-04	4 of 4	D-Guard V2 Gas Detector Type: Display Illumination PCB (Bottom Overlay)	2.0	14/01/2015

(Drawings continued next page)

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Document Number	Pages / Sheets	Document Title	Revision	Date
65-1080_SCH_03-00-00	1 of 1	2-Wire Gas Monitor Platform Terminal PCB	-	19/11/2014
65-1080_PCB_04-01-02	1 of 3	D-Guard V2 Gas Detector Type: Terminal Board (Top Overlay)	1.0	14/01/2015
65-1080_PCB_04-01-02	2 of 3	D-Guard V2 Gas Detector Type: Terminal Board (Top Layer)	1.0	14/01/2015
65-1080_PCB_04-01-02	3 of 3	D-Guard V2 Gas Detector Type: Terminal Board (Bottom Layer)	1.0	14/01/2015
65-1080_SCH_04-00-01	1 of 1	2-Wire Gas Monitor Platform Terminal PCB - HART	-	14/07/2015
65-1080_PCB_05-01-02	1 of 3	D-Guard V2 Gas Detector Type: Terminal Board (Top Overlay)	1.0	05/06/2015
65-1080_PCB_05-01-02	2 of 3	D-Guard V2 Gas Detector Type: Terminal Board (Top Layer)	1.0	05/06/2015
65-1080_PCB_05-01-02	3 of 3	D-Guard V2 Gas Detector Type: Terminal Board (Bottom Layer)	1.0	05/06/2015
65-1080_MD_03-07-08	1 of 1	D-Guard Ex Label Group I Model	07-08	5/28/2018
65-1080_MD_05-06-08	1 of 1	D-Guard Ex Label Group IIB Model	06-08	5/31/2018
65-1080_MD_04-07-09	1 of 1	D-Guard Ex Label Group IIC Model	07-09	5/28/2018
65-1080_MD_06-04-05	1 of 3	0-Guard 2 Front Facia Plate	-	11/06/2015
65-1080_MD_06-04-05	2 of 3	D-Guard 2 Front Facia Plate	-	11/06/2015
65-1080_MD_06-04-05	3 of 3	D-Guard 2 Front Facia Plate	-	11/06/2015
65-1080_SCP_01-03-05	1 of 1	Safety Critical Parts List Parts fitted to PCB 57.1080.01	-	08 June 2015
65-1080_SCP_02-01-02	1 of 1	Safety Critical Parts List Parts fitted to PCB 57.1080.02	-	16 February 2015