

Certification of

EXPLOSION PROTECTED ELECTRICAL EQUIPMENT

Administered by: Standards Australia Quality Assurance Services

Certificate of Conformity

Certificate No.: **Ex 2491X** Issue 0: **22 December 2000** Original Issue

Date of expiry: **22 December 2010**

Certificate Holder: **MEDC**
Colliery Road
PINXTON NOTTINGHAM
NG16 6JF UK

Electrical Equipment: **Sounder Type DB1**

Type of Protection and Marking Code: **Ex d IIB T3 (T_{AMB} = -20°C to +55°C)**
AUS Ex 2491X

Manufactured by: **MEDC**

Issued by:



Engineering, Testing and Certification Centre

2 Smith Street, REDBANK, QLD 4301, Australia
Postal Address: PO Box 467, GOODNA, QLD 4300, Australia
Phone: + 61 7 3810 6381 Fax: + 61 7 3810 6366



Quality System Certified to
AS/NZS ISO 9001
Certification No 6039

STANDARDS AUSTRALIA



Standards Australia Quality Assurance Services Pty Limited A.C.N. 050 611 642

Certification of

EXPLOSION PROTECTED ELECTRICAL EQUIPMENT

Administered by: Standards Australia Quality Assurance Services

This certificate is granted subject to the conditions as set out in Standards Australia Miscellaneous Publication MP 69 and the Procedures (Doc Q7134) of the scheme.

The electrical equipment and any acceptable variation to it specified in the schedule to this certificate and the identified documents, was found to comply with the following standards:

AS 2380.1 - 1989	Electrical equipment for explosive atmospheres - Explosion-protection techniques - Part 1 : General requirements (Amdt 1, 5 September 1998)
AS 2380.2 - 1991	Electrical equipment for explosive atmospheres - Explosion-protection techniques - Part 2 : Flameproof enclosure d (Amdt 1, 13 July 1992)

This certificate does not ensure compliance with electrical safety and performance requirements other than those included in the standards listed above.

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

Test Report No: NE00/0043

File Reference: 00/0085 (P80885)



Signed for and on behalf of issuing authority

**Senior Engineer - Certification
Engineering, Testing and Certification Centre**

Position

22 December 2000

Date of issue

This certificate and schedule may not be reproduced except in full.

This certificate is not transferable and remains the property of Standards Australia Quality Assurance Services and must be returned in the event of its being revoked or not renewed.

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EXPLOSION PROTECTED ELECTRICAL EQUIPMENT

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Schedule

Equipment:

The Type DB1 Sounder is rated up to 240V a.c. 50/60Hz or up to 48V d.c. with a maximum power dissipation of 20W. The equipment is manufactured in aluminium alloy or stainless steel and has approximate dimensions of 170mm height x 175mm diameter and comprises a housing and a bolted cover. A plastics sounder cone is bolted to the outside of the cover. The enclosure houses a main printed circuit board mounted to the underside of the cover. An optional printed circuit board is mounted from the underside of the main circuit board. A sintered metal element is fitted in the cover to facilitate the transmission of the sound energy. The housing has entries for the fitting of separately certified flameproof cable glands or fittings.

Drawings:

DRAWING NUMBER	DRAWING TITLE	REVISION NUMBER	DRAWN/ REVISION DATE
173-371	CERTIFICATION G.A DB1 SOUNDER UNIT AUST. VERSION	B	21-03-00

Conditions of Certification:

Cable selection shall be in accordance with Table 1.

TABLE 1 - CABLE TEMPERATURE RATINGS

Power Dissipation	Limiting Temperature for Insulated Cables
Up to 10W	75°C
10W to 20W	90°C

Additional Information:

Routine pressure testing shall be carried out at a pressure not less than 1227kPa.

Certificate No.: Ex 2491X Issue: 0 Date of Issue: 22 December 2000

Issued by:



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Certification No 6039

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Standards Australia Quality Assurance Services Pty Limited A.B.N. 67 050 611 642



SIMTARS is a business unit of the
Department of Mines and Energy.

Our Reference: 00/0085 & 01/029/0001 AC
Your Reference: Order 71409

Contact: A Chowdhury
Telephone: 07 3810 6381
Facsimile: 07 3810 6366

21 December 2000

Attention: Mr. Philip Oates
MEDC
Colliery Road
PINXTON NOTTINGHAM
NG16 6JF UK

Dear Sir

Test Report for DB1 Sounder

Enclosed is the original test report NE00/0043 for the above equipment.

Our invoice for the assessment, testing and issue of this report will be forwarded under separate cover.

Yours faithfully

Ashraf Chowdhury
Senior Engineer - Flameproof & Mechanical Testing
Engineering, Testing and Certification Centre

Encl: Test report NE00/0043
Drawings as listed in the test report



HEAD OFFICE- 2 Smith Street REDBANK Qld 4301 **POSTAL-** The Director SIMTARS PO Box 467 GOODNA Qld 4301
Telephone: +61 7 3810 6333 Facsimile: +61 7 3810 6363 Email: simtars@dme.qld.gov.au

2 Smith Street, REDBANK, QLD 4301, Australia
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Test Report

Electrical Equipment for Explosive Atmospheres Explosion Protection Techniques

- **AS 2380.1 - 1989, General Requirements**
(Including Amendment No. 1, Sept. 1998)
- **AS 2380.2 - 1991, Flameproof Enclosure d**
(Including Amendment No. 1, July 1992)

Report No: NE00/0043

Date of Issue: 21 December 2000

Job No: 00/0085

Applicant/Customer Name: MEDC
Colliery Road
PINXTON NOTTINGHAM
NG16 6JF UK

Equipment Details: Sounder Type DB1

Type of Protection: Ex d

Apparatus Group: IIB

Temperature Class: T3

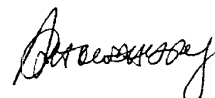
Ambient Temperature: -20°C to + 55°C

Hazardous Area: Zone 1

CHECKED:



APPROVED SIGNATORY:



This Laboratory is accredited by the National Association of Testing Authorities, Australia. The test(s) reported herein have been performed in accordance with its terms of accreditation. This document may not be reproduced except in full. Testing Accreditation Numbers: 2679, 2683, 3400. Inspection Accreditation Number: 11494. Quality System Certification Number: 6039 (Certified to AS/NZS ISO 9001).

Test Report No: NE00/0043

1.0 DESCRIPTION OF APPARATUS

The Type DB1 Sounder is rated up to 240V a.c. 50/60Hz or up to 48V d.c. with a maximum power dissipation of 20W. The equipment is manufactured in aluminium alloy or stainless steel and has approximate dimensions of 170mm height x 175mm diameter and comprises a housing and a bolted cover. A plastics sounder cone is bolted to the outside of the cover. The enclosure houses a main printed circuit board mounted to the underside of the cover. An optional printed circuit board is mounted from the underside of the main circuit board. A sintered metal element is fitted in the cover to facilitate the transmission of the sound energy. The housing has entries for the fitting of separately certified flameproof cable glands or fittings.

2.0 DRAWINGS

The drawings listed in Schedule 1 form part of this test report.

3.0 TEST SPECIFICATION

The equipment was assessed and tested to AS 2380.1-1989 and AS 2380.2-1991.

3.1 The following clauses of AS 2380.1 were applied:

1.1, 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 2.1, 2.2, 2.3, 2.4, 2.7, 2.8, 2.9, 2.10, 2.11, 4.1, 4.2, 4.4, 4.7, 5.1, 5.2, 5.5.

The following clauses of AS 2380.1 were not applicable:

- Clause 5.2.2 Drop Test - The equipment is not portable.
- Clause 5.3 Degree of Protection Tests - Degree of protection testing to clause 5.3 was not conducted as it is not a requirement for the protection technique covered by AS 2380.2 and the equipment is not marked with a degree of protection rating.
- Clause 5.4 Torque Test - The equipment has no bushings or terminal studs.
- Clause 5.6 Thermal Shock Test - The equipment contains no glass parts or windows.
- Clause 5.7 Insulation Resistance - The equipment does not have external fans or rotating electrical machines.

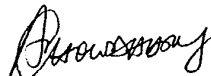
3.2 The following clauses of AS 2380.2 were applied:

1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.9, 2.10, 2.11, 2.12, 3.1, 4.1, 4.2.1, 4.2.2, 4.2.3, 4.2.4(a), 4.2.5.

CHECKED:



APPROVED SIGNATORY:



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Test Report No: NE00/0043

4.0 SUMMARY OF TEST RESULTS

The equipment complies with the relevant requirements of the standards as listed in Section 3 of this report for flameproof equipment with the following grouping and classification

Ex d IIB T3
(-20°C to +55°C ambient temperature range)

5.0 CONDITIONS

It is recommended that as a condition of safe use the following information be included in the certificate for the apparatus:

Cable selection shall be in accordance with Table 1.

TABLE 1 - CABLE TEMPERATURE RATINGS

Power Dissipation	Limiting Temperature for Insulated Cables
Up to 10W	75°C
10W to 20W	90°C

6.0 ADDITIONAL INFORMATION

Routine pressure testing shall be carried out at not less than 1227kPa.

SCHEDULE 1

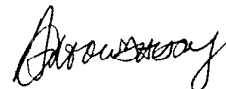
DRAWINGS

DRAWING NUMBER	DRAWING TITLE	REVISION NUMBER	DRAWN/ REVISION DATE
173-371	CERTIFICATION G.A DB1 SOUNDER UNIT AUST. VERSION	B	21-03-00

CHECKED:



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