Inlec Engineering Australasia Pty Ltd
HAZARDOUS AREA CONSULTANTS
(ABN 67 128 828 142)

CONFORMITY ASSESSMENT DOCUMENT

OMNIFLEX
OMNI16C ALARM ANNUNCIATOR
TYPE C1480B-EX

OMNIFLEX PTY LTD

REPORT No 1310OMN-RE-001 Rev 0

Approved for Issue:

Alan Wallace FIEAust CPEng 10 MAR 2013

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COMPETENCY

The Author of this Report holds the relevant competencies - UEENEEM036A and UEENEEM037A.

CONTENTS

EXECUTIVE SUMMARY

It is the finding of this Report that the OMNIflex OMNI16C Alarm Annunciator Type C1480B-EX, covered by the stated Certificate, hereafter referred to as the 'equipment under assessment', can be considered to offer a similar, and acceptable, level of safety to equipment certified to AS/NZS60079.0 and AS/NZS60079.11 under the ANZEx scheme.

Item	Certificate Number
OMNIflex OMNI16C Alarm Annunciator Type C1480B-EX	S-XPL/13.0067X

Our opinion is that the 'equipment under assessment' can be safely installed and used by the User on facilities under Australian jurisdiction provided that:

- it has been correctly selected for the hazardous area classification and environment, and
- it is installed and maintained in accordance with any 'conditions of use' and any other requirements, as indicated on the certification documentation and/or manufacturer's instructions, and
- it is selected, installed, inspected, maintained, overhauled and repaired in accordance with the requirements of the Standards to which it was certified, and the relevant Australian Standards and Regulations (where these do not contradict the requirements of the Standards to which it was certified).

This opinion is based upon the assumption that the equipment supplied to the User:

- has been manufactured in accordance with the certification documentation, and
- has been routine tested, if required by the certification documentation, and
- has markings as per the certification documentation, and
- has a batch test report that identifies the 'equipment under assessment' supplied to the User via serial or batch number.

Inlec has not sighted the 'equipment under assessment'. It is recommended that prior to installation, the User or their Nominee verify that:

- the markings on the equipment are in accordance with the certification documentation, and
- a batch test report exists that identifies the 'equipment under assessment' supplied to the User via serial or batch number.

1.0 GENERAL

AS/NZS60079.14 clauses 5.4.2 to 5.4.4 requires that electrical equipment in hazardous areas be protected by one or a combination of explosion-protection techniques specified in Table 2.1 (for gases) or Table 2.2 (for dusts). In addition to listing the allowable techniques, Table 2.1 and Table 2.2 also list the acceptable equipment standards. In general, these are either the Australian, Australian/New Zealand, or IEC standards.

In addition, AS/NZS60079.14 requires that explosion-protected electrical equipment be certified as complying with these standards in accordance with the ANZEx, IECEx, or AUSEx schemes. Clause 4.3.1 states, in part:

> *Acceptable certification of equipment shall be covered by a Certificate of Conformity which—*
>
> > *(a) is issued in accordance with a Type 5 Scheme complying with ISO/IEC Guide 67; and*
> > *(b) is issued by a body operating within the IECEx Scheme or ANZEx scheme or by a certification body with accreditation by JAS-ANZ or an organization that has a Mutual Recognition Agreement (MRA) with JAS-ANZ covering Product Certification of Explosion Protected Equipment; and*
> > *(c) certification shall be issued by a Certification Body or agency with current accreditation or acceptance by way of independent assessment complying with ISO/IEC Guide 65. The accreditation or acceptance shall show Ex certification for an ISO Type 5 system in the Ex field, as part of their capability; and*
> > *(d) the certification system shall also require—*
> > > *(i) testing of samples for compliance with relevant IEC Standards or Australian Standards;*
> > > *(ii) assessment and audit of manufacturers by the Certification body, for compliance of their quality system according to ANZEx or IECEx requirements or equivalent; and*
> > > *(iii) on-going surveillance audits of manufacturers, in accordance with ANZEx or IECEx quality requirements or equivalent, by the Certification body, responsible for issuing the Certificate. This does not preclude the Certification Body arranging to have surveillance audits conducted by another body operating as their agent.*
>
> *Equipment certified under the IECEx Scheme and registered on the IECEx database (www.iecex.com) or the ANZEx Scheme registered on the ANZEx database (www.anzex.com.au) meets these criteria. Equipment certified under the AUSEx Scheme is acceptable when manufactured within the certificate validity period.*

AS/NZS60079.14 also allows the use of 'other' certified equipment when suitable equipment with acceptable certification is not obtainable, provided that the justification for the use of the equipment is made by the person(s) in control of the installation using a competent body. Clause 4.3.2 states in part:

Apart from simple apparatus used within an intrinsically safe circuit, the selection of equipment for use in a hazardous area, which has certification that is not in accordance with 4.3.1, shall be restricted to circumstances where suitable equipment with certification in accordance with 4.3.1 is not practically obtainable.

The justification for the use of such equipment along with the selection, installation, marking, inspection, maintenance, repair and overhaul requirements, shall be made by the person(s) in control of the installation using a competent body.

The justification shall be included as part of the verification dossier. Justification may be demonstrated in the form of a Conformity Assessment Document.

2.0 SCOPE

Inlec was commissioned to produce a Conformity Assessment Document (this Report) for an item of electrical equipment not complying with AS/NZS60079.14 Clause 4.3.1, to enable its use in a hazardous area. The scope of this Report is limited to a technical assessment of the equipment as detailed on the Certificate listed below.

It is **not** in Inlec's scope to justify the use of the 'equipment under assessment' instead of IECEx, ANZEx, or AUSEx certified equipment.

Item	Certificate Number
OMNIflex OMNI16C Alarm Annunciator Type C1480B-EX	S-XPL/13.0067X

It is **not** in Inlec's scope to determine if the installed equipment will be safe, or to make recommendations regarding the installation of the equipment. It is the User or their Nominee's responsibility to ensure that the equipment is suitable for the hazardous area and environment, and to ensure that the equipment is installed and maintained in accordance with the relevant Australian Standards and Regulations, and any particular requirements of the Standards it is certified to.

If local legislation places additional requirements to those contained in AS/NZS60079.14, Inlec offers no guarantee that the Regulator will accept the findings of this Report and/or allow the use of the equipment in a hazardous area. Nor is it in Inlec's scope to obtain acceptance from the Regulator for the use of this equipment in a hazardous area.

3.0 METHODOLOGY

The 'equipment under assessment' has been subject to a third party type examination. A copy of the IA Certificate (S-XPL/13.0067X) and associated Assessment and Test Report (XPL/13872/13.0067), was provided by OMNIflex Pty Ltd for the 'equipment under assessment'.

Inlec has reviewed the design and testing of the 'equipment under assessment' as indicated by the certification documentation to determine if it would offer an equivalent level of safety to equipment issued with an ANZEx certificate of conformity. In conducting this review we have considered:

- The equivalence of the standards to which the equipment was certified
- The ability of the certifying body to conduct the certification
- The quality assurance requirements for manufacture of the equipment

4.0 EQUIPMENT CERTIFICATION

OMNIflex Pty Ltd advised Inlec Engineering Australasia that the 'equipment under assessment' was certified in accordance with the certification documentation as listed in Section 2.0 of this Report. Inlec Engineering Australasia has not verified that this is correct.

The 'equipment under assessment' has been certified as being intrinsically safe, category 'ic'.

5.0 FINDINGS

5.1 EQUIVALENCE OF STANDARDS

According to the IA Certificate for the 'equipment under assessment', it is designed and assessed in accordance with IEC60079-0:2004 and IEC60079-11:2006. These IEC standards are acceptable for certification in Australia, therefore no further consideration of the Standards is necessary.

5.2 TYPE TESTING AND MANUFACTURING QUALITY ASSURANCE

The IA Certificate was issued by Explolabs who are an Approved Test Laboratory and are empowered by Standards South Africa ARP0108 to issue IA Certificates for explosion-protected electrical equipment.

However, Explolabs are **not** an IEC ExCB for the purpose of issuing IECEx certificates of conformity.

Explolabs are an Accredited Testing Laboratory accredited by the South African National Accreditation System (SANAS) for testing equipment to various Explosion Protection standards via the International Accreditation Forum http://www.iaf.nu/articles/Accreditation_Body_Members_by_Name/52.

SANAS has a mutual Recognition Agreement (MRA) with JAS-ANZ who accredit the Australian Ex certification bodies and test laboratories operating under the ANZEx scheme.

Based on this, our opinion is that Explolabs offer an equivalent level of testing capability to entities testing equipment under the ANZEx scheme. Therefore, the type testing of the 'equipment under assessment' underpinning the IA Certificate can be considered to be of equal quality to the type testing underpinning an ANZEx certificate of conformity.

However, Explolabs are **not** an SANAS Accredited Certification Body.

ARP0108 requires, under Section 4, that product conformity for explosion-protection is established through testing and certification. This can be achieved by type testing followed by batch testing of all production units, or by type testing followed by production under an approved product certification scheme.

OMNIflex Pty Ltd advised that the 'equipment under assessment' is manufactured under a regime of batch testing, whereby each production batch is monitored by an Accredited Testing Laboratory, and a batch test report is issued to identify the units covered by a serial or batch number.

Therefore, although Explolabs are not an Accredited Certification Body, it is reasonable to conclude that as the 'equipment under assessment' is controlled by batch testing conducted by an Accredited Testing Laboratory, this would provide a similar level of production quality as equipment produced under a product certification scheme such as ANZEx.

6.0 CONCLUSIONS

The 'equipment under assessment' has been certified as complying with IEC60079.0 and IEC60079.11. These standards are acceptable for certification in Australia. The Certificate for the 'equipment under assessment' was issued by Explolabs who are a SANAS Accredited Testing Laboratory. SANAS has a mutual Recognition Agreement (MRA) with JAS-ANZ who accredit the Australian Ex test laboratories operating under the ANZEx scheme.

Manufacture is controlled via batch testing conducted by an Accredited Testing Laboratory, thereby providing a similar level of production quality as equipment produced under a product certification scheme such as ANZEx.

Based on the above, our opinion is that the 'equipment under assessment' offers an equivalent level of safety to similar equipment certified to AS/NZS60079.0 and AS/NZS60079.11 under the ANZEx scheme.

Our opinion is that the 'equipment under assessment' can be safely installed and used on facilities under Australian jurisdiction provided that:

- it has been correctly selected for the hazardous area classification and environment, and
- it is installed and maintained in accordance with any 'conditions of use' and any other requirements, as indicated on the certification documentation and/or manufacturer's instructions, and
- it is selected, installed, inspected, maintained, overhauled and repaired in accordance with the requirements of the Standards to which it was certified, and the relevant Australian Standards and Regulations (where these do not contradict the requirements of the Standards to which it was certified).

This opinion is based upon the assumption that the equipment supplied to the User:

- has been manufactured in accordance with the certification documentation, and
- has been routine tested, where required by the certification documentation, and

- has markings as per the certification documentation, and
- has a batch test report that identifies the 'equipment under assessment' supplied to the User via serial or batch number.

Inlec has not sighted the 'equipment under assessment'. It is recommended that prior to installation, the User or their Nominee verify that:

- the markings on the equipment are in accordance with the certification documentation, and
- a batch test report exists that identifies the 'equipment under assessment' supplied to the User via serial or batch number.

7.0 JUSTIFICATION

The person(s) in control of the installation where the equipment covered by this Report is to be used must justify the use of the equipment using a competent body, and include the justification in the verification dossier. Therefore, this Report (being part of the justification for use) shall be stored in the verification dossier for the facility.

In addition, as AS/NZS60079.14 requires that the use of equipment without IECEx, ANZEx, or AUSEx certification shall be restricted to circumstances where suitable equipment with IECEx, ANZEx, or AUSEx certification is not obtainable, the person(s) in control of the installation shall also record the justification for using the 'equipment under assessment' instead of equipment with IECEx, ANZEx, or AUSEx certification.

APPENDIX A : CERTIFICATION DOCUMENTATION

The IA Certificate listed in this Report is contained herein.

- S-XPL/13.0067X

EXPLOLABS (Pty) Ltd
Explosion Prevention Services
Reg No: 1999/027771/07

Government Approved Test Laboratory
(Previously AIA)

sanas Testing Laboratory
T0104

APPROVED/ACCREDITED TEST LABORATORY
(previously referred to as Approved Inspection Authority)
IN TERMS OF:
ARP 0108: "REGULATORY REQUIREMENTS FOR EXPLOSION PROTECTION APPARATUS"

IA CERTIFICATE

OMNIFLEX (PTY) LTD
PO BOX 37219
OVERPORT
DURBAN
4067

Issued: **28 Feb 2013**
*Expire: **28 Feb 2023**

Equipment: OMNI16C ALARM ANNUNCIATOR
Manufacturer: OMNIFLEX (PTY) LTD
Type: C1480B-EX
Serial No: All serial numbers of equipment covered by a valid report, or accepted product certification mark.

Supplied by
OMNIFLEX
Identified by Inspection Authority number
S-XPL /13.0067X
Electrostatic discharge possible. Wipe with a damp cloth

And as described in the Explolabs **test report number XPL/13872/13.0067** is hereby certified "Explosion Protected "**Ex ic I/IIC T4**", having been examined and inspected in accordance with the relevant requirements of South African Standards.

SANS 60079-0: 2005 Ed 3 **IEC 60079-0: 2004 Ed 4**	"Electrical apparatus for explosive gas atmospheres, Part 0: General requirements"
SANS 60079-11: 2007 Ed 3 **IEC 60079-11: 2006 Ed 5**	"Electrical apparatus for explosive gas atmospheres, Part 11: Equipment protection by Increased safety 'i'"

This certification indicates compliance with R10.1 of the Mine Health and Safety Act and/or EMR 9(2) of the Occupational Health and Safety Act, provided that the apparatus is used as relevant in accordance with:

i) SANS 10086 and SANS 61241-10 requirements as applicable;
ii) Any conditions mentioned in the above report;
iii) Any relevant requirements and codes of practice enforced in terms of the Mine Health and Safety Act or Occupational Health and Safety Act; and
iv) Any restrictions and conditions enforced by the Chief Inspector of Mines or the Principal Inspector or the Chief Inspector: Occupational Health and Safety.
v) * - New equipment may only be presented for sale between the "Issued" and "Expire" dates.

ANNEX TO CERTIFICATE NO S-XPL/13.0067

1. GENERAL

The Alarm Annuncitor consisted of a metal enclosure with all the electronics and circuity mounted within the enclosure. The front part of the enclosure had 12 individual white tinted plastic lenses and a set of terminal blocks was located at the back to facilitate connection to the power supply. The enclosure was manufactured of black coated mild steel and dimensions were 286mm x 120mm x 80mm with air vents on the back and sides.

2. SAFETY PARAMETERS

Ui: 24V				
Ui: 5V	*Ii*: 2.55A	*Pi*: 1.57W	*Ci*: 65uFµF	*Li*: Neg

3. SPECIAL CONDITIONS OF USE (X)

Electrostatic discharge possible. Wipe with a damp cloth.

4. MARKING

The following markings shall be added to the unit in a legible and durable manner:

Supplier	OMNIFLEX (PTY) LTD
Product	OMNI16C ALARM ANNUNCIATOR model C1480B-EX
IA Number	S–XPL/13.0067 X
Classification	Ex ic I/IIC T4

U_m: 27V

Ui: 24V				
U_i: 5V	I_i: 2.55A	P_i: 1.57W	C_i: 65uFµF	L_i: Neg

Warning! Electrostatic discharge possible. Wipe only with damp cloth.
A minimum marking may be used due to size constraints of the unit.

Responsible Testing Officer:

G Howard
SANAS Technical Signatory

Reviewed by:

D Young
SANAS Technical Signatory