



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Component intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 99ATEX3174U** Issue: **10**

4 Component: **ZAG Range of Enclosures**

5 Applicant: **ABTECH Limited**

6 Address: Sanderson Street
Lower Don Valley
Sheffield S9 2UA
UK

7 This component and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of a component intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012 EN 60079-7:2007 EN 60079-11:2012 EN 60079-26:2007 EN 60079-31:2009

10 The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when incorporated into equipment. Any special conditions for safe use are listed in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

12 The marking of the component shall include the following:



II 1 G D
Ex ia IIC Ga
Ex ta IIIC Da IP6X

Or



II 2 G D
Ex e IIC Gb
Ex tb IIIC Db IP6X

Or



II 2 G D
Ex ib IIC Gb
Ex tb IIIC Db IP6X

Project Number 37011

C Ellaby
Deputy Certification Manager

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13 DESCRIPTION OF COMPONENT

The ZAG range of enclosures are manufactured from aluminium alloy in the following sizes:

ZAG Reference	Length (mm)	Width (mm)	Height (mm)	ZAG Reference	Length (mm)	Width (mm)	Height (mm)
2	58	64	36	10	220	120	80
3	98	64	36	10/9	220	120	90
4	150	64	36	11	160	160	90
5	75	80	57	12	260	160	90
6	125	80	57	13	360	160	90
7	175	80	57	15	202	232	114
9	122	120	80	16	332	232	113

The enclosures may also be manufactured in sizes not specified in the table. This assumes that any given dimension is not larger than the respective dimension of the largest enclosure or smaller than the respective dimension of the smallest enclosure.

The enclosure lids may be hinged or detachable and are retained with captive screws. The enclosures are sealed to IP66 by gaskets of closed cell silicone rubber.

Entries may be provided either through the sides or the rear of the enclosure and external and internal earthing facilities are provided.

Variation 1 - This variation introduced the following changes:

- i. The recognition of a minor revision of the information marked on the label.

Variation 2 - This variation introduced the following change:

- i. A ZAG10/9 enclosure was included in the range.

Variation 3 - This variation introduced the following changes:

- i. Following appropriate re-assessment to demonstrate compliance with the requirements of the EN 60079 and the EN 61241 series of standards, the documents originally listed in section 9, EN 50014:1997 (amendments A1 to A2), EN 50019:2000 and EN 50281-1-1:1998, were replaced by EN 60079-0:2006, EN 60079-7:2003, EN 61241-0:2006 and EN 61241-1:2006, the markings in section 12 were updated accordingly.

Variation 4 - This variation introduced the following changes:

- i. An alternative ambient temperature range, -65°C to +90°C, was introduced for enclosures that are fitted with a closed cell silicone gasket.

Variation 5 - This variation introduced the following changes:

- i. The option to fit a glass window in the enclosure lid that is 4 mm thick and no larger than 170 mm x 260 mm was endorsed.



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Variation 6 – This variation introduced the following changes:

- i. An alternative temperature range, -65°C up to +180°C, was introduced for enclosures that are fitted with a closed cell silicone gasket and do not incorporate a window, in addition the maximum operating temperature for the enclosures with neoprene seals was raised to 80°C; the special condition for safe use was modified to clarify limiting temperature ranges.

Variation 7 - This variation introduced the following changes:

- i. The option to fit slotted trunking inside the enclosures, this trunking may be sited as required. The instructions were modified to recognise additional restrictions associated with this change and a new Condition of Manufacture was introduced.
- ii. The recognition of minor drawing modifications including the introduction of a new company logo; these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.

Variation 8 – This variation introduced the following changes:

- i. Following appropriate re-assessment to demonstrate compliance with the requirements of the EN 60079 series of standards, the documents previously listed in section 9, EN 60079-0:2006, EN 60079-7:2003, EN 61241-0:2006 and EN 61241-1:2006, were replaced by those currently listed, the markings in section 12 were updated accordingly. In addition, the enclosure was allowed to be used for intrinsically safe applications and EN 60079-11:2012 was included in the list of supporting standards.
- ii. The Description of Component and the Special Condition for Safe Use were amended to recognise that closed cell polychloroprene gaskets are no longer used.
- iii. The Conditions of Certification were reviewed and amended taking into account the restrictions applied to other enclosures being assessed by report no. R25164/00.

Variation 9 - This variation introduced the following changes:

- i. Using EN 60079-26, the enclosures were allowed to be marked with 'Ex ia' and 'Ex ta' concepts for EPL levels Ga and Da. This change necessitated the introduction of a Special Condition for Safe Use.
- ii. IEC 60079-0:2011 was replaced by EN 60079-0:2012 in the list of standards.
- iii. The introduction of one or more optional Earth Bars. Each earth bar is manufactured from copper or brass, which may optionally be plated, and are mounted and fixed to at least two welded pillars, welded studs, or internal earth mounting plate (if fitted). Each earth bar is connected to the main internal earth point of the enclosure in which it is fitted. Individual earth connection is made via a threaded entry using a screw and self locking nut, or screw and nut and anti-vibration washer, or locked via the use of thread sealant, and designed to accept a crimped conductor lug. This change necessitated the introduction of new Conditions of Certification.
- iv. Because light metals are used in the construction of these enclosures, a Special Condition for Safe Use was applied.



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14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report/File no.	Comment
0	18 January 2000	R51X6055D	The release of the prime certificate.
1	28 September 2001	53V7936	The introduction of Variation 1.
2	30 October 2001	53V8484	The introduction of Variation 2.
3	26 February 2008	R51A17090J	This Issue covers the following changes: <ul style="list-style-type: none">• All previously issued certification was rationalised into a single certificate, Issue 3, Issues 0 to 2 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format.• The change of the company name from AB Controls and Technology, first recognised 31 January 2007.• The introduction of Variation 3.
4	16 February 2009	R51A19103A	The introduction of Variation 4.
5	20 May 2009	R51A19915A	The introduction of Variation 5.
6	19 April 2011	R23487A/00	The introduction of Variation 6.
7	03 April 2012	R26585A/00	The introduction of Variation 7.
8	11 June 2012	R26585A/01	Report R26585A/01 replaced report R26585A/00.
9	08 October 2012	R25164A/00	The introduction of Variation 8.
10	07 April 2014	R30711A/00	The introduction of Variation 9.

15 SPECIAL CONDITIONS FOR SAFE USE

15.1 These enclosures shall be used within the following temperature ranges:

Material	Without 4 mm glass window	With 4 mm glass window
Closed cell silicone rubber	-65°C to +180°C	-60°C to +90°C

15.2 The materials used in the construction of this equipment contain levels of Al, Mg, Ti, Zr that are greater than that allowed for EPL Ga by clause 8.3 of EN 60079-0, therefore in rare cases, ignition sources due to impact and friction sparks could occur. The equipment shall therefore be protected from such impact and friction when installed.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

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17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 If the Enclosures are supplied with blanking plugs, reducers, adapters and breather drains, then the manufacturer shall ensure that:
- The device does not adversely affect the minimum IP rating of the enclosure.
 - There are no special conditions of for safe use (conditions of certification) associated with the device that will impinge upon the use and installation of the Enclosure, e.g. "These components shall not be used for applications where there is a 'high' risk of mechanical damage".
 - The coding reflects the "worst case" item fitted.
- 17.4 The manufacturer shall take all reasonable steps to ensure that the following items used in the construction of the Enclosure are used within the minimum and maximum service temperature stated in the condition for safe use, in addition, the manufacturer shall provide the user/installer with a copy of the certificate associated with any blanking plugs, reducers, adapters and breather drains:
- Item:** Solid silicone rubber gasket
Glass window
Blanking plugs, reducers, adapters and breather drains
- 17.5 When trunking is fitted, it may be sited as required and the minimum creepage and clearance distances shall still be met.
- 17.6 When the optional earth bar is fitted it shall allow for a size of conductor connection in accordance with Clause 15.3 of EN 60079-0.
- 17.7 When an individual earth connection to the earth bar is secured via thread sealant alone it shall be ensured that the thread sealant used has a suitable temperature range to account for the lowest ambient temperature and at least the T-class applied.
- 17.8 The earth bar connection screws, nuts and washers shall not be constructed of light metals.

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Certificate Annexe

Certificate Number: Sira 99ATEX3174U
Component: ZAG Range of Enclosures
Applicant: ABTECH Limited



Issue 0

Drawing	Sheet	Rev.	Date	Description
ABT 10261	1 of 1	A	21 Dec 99	External Label (ZAG)
ABT 10307	1 of 1	A	16 Nov 99	ZAG Enclosures
ABT 10306	1 of 1	A	16 Nov 99	ZAG Manufacturing Specification

Issue 1

Drawing	Sheet	Rev.	Date	Description
ABT 10261	1 of 1	B	23 Jul 01	External Label (ZAG)

Issue 2

Drawing	Sheet	Rev.	Date	Description
ABT 10307	1 of 1	B	26 Oct 01	ZAG Enclosures

Issue 3

Drawing	Sheet	Rev.	Date	Description
ABT 10261	1 of 1	C	11 Jan 08	Certification Label

Issue 4

Drawing	Sheet	Rev.	Date (Sira stamp)	Description
ABT 10261	1 of 1	D	12 Feb 09	External Label (ZAG)

Issue 5

Drawing	Sheet	Rev.	Date (Sira stamp)	Description
ABT 10307	1 of 1	C	16 Apr 09	ZAG Enclosures
ABT 10306	1 of 1	B	16 Apr 09	ZAG Manufacturing Specification

Issue 6 No new drawings were introduced.

Issue 7

Drawing	Sheets	Rev.	Date (Sira Stamp)	Description
ABT 10306	1 of 1	C	02 Apr 12	ZAG Manufacturing specification

Issue 8 (No new drawings were introduced.)

Issue 9

Drawing	Sheets	Rev.	Date (Sira Stamp)	Description
ABT 10261	1 of 1	E	30 Sep 12	ZAG Nameplate – Empty Enclosures
ABT 10306	1 of 1	D	30 Sep 12	ZAG Manufacturing specification
ABT 10307	1 of 1	D	30 Sep 12	ZAG Enclosures

Issue 10

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
ABT25914	1 of 1	A	07 Oct 13	External Label ZAG
ABT10307	1 of 1	E	11 Oct 213	ZAG Range of Enclosures

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