



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 99ATEX3174U** Issue: **6**

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: 2006

EN 61241-0: 2006

EN 60079-7: 2003

EN 61241-1: 2004

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 2 G D

Ex e II

Ex tD A21 IP66

Project Number 23487

C. Index 04

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C Ellaby

Deputy Certification Manager



## SCHEDULE

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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 polychloroprene or 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.

#### 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"><li>• 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.</li><li>• The change of the company name from AB Controls and Technology, first recognised 31 January 2007.</li><li>• The introduction of Variation 3.</li></ul>
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.

#### 15 SPECIAL CONDITIONS FOR SAFE USE

- 15.1 These enclosures shall be used within the following temperature ranges dependant upon the type of gasket used in their construction:

Material	Without 4 mm glass window	With 4 mm glass window
Closed cell polychloroprene	-20°C to +80°C	-20°C to +80°C
Closed cell silicone rubber	-65°C to +180°C	-60°C to +90°C

#### 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.

#### 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.

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### Sira Certification Service

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- 17.3 Suitably certified Ex e equipment such as breathing devices and blanks may be fitted to the enclosure providing the enclosure maintains compliance with BS EN 60529:1992 code IP64 or better.

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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

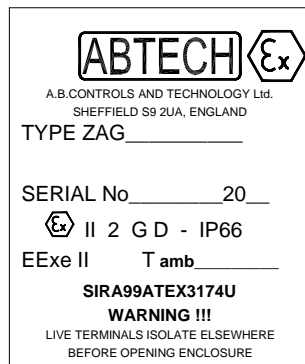
Drawing	Sheet	Rev.	Date (Sira stamp)	Description
ABT 10307	1 of 1	C	16 Apr 09	ZAG Enclosures
ABT 10306	1 of 1	B	16 Apr 09	ZAG Manufacturing Specification

## Issue 6

No drawings issued.

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## INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS FOR ABTECH 'ZAG' Range Enclosures – SIRA99ATEX3174U



### Marking

The marking shown is for a component certified enclosure. The user must submit the complete unit for type examination if it is to be used in a hazardous area.

The ambient temperature range for which this product is suitable is marked on the label and identified by T amb \_\_\_\_\_.

### Installation

These instructions assume that the required cable entries have been pre-drilled. Cable entries may be threaded.

- 1) Using the mounting dimensions data provided, either in the product catalogue data sheets or on the drawings supplied, (as part of the project documentation), mark out the positions for the mounting holes on the surface where installation is required.
- 2) Drill the mounting holes for M4 fixing studs (for size ZAG1 to ZAG8) or for M6 fixing studs (for size ZAG9 to ZAG16) as applicable.
- 3) Tap thread into mounting holes if required.
- 4) Place a mounting screw through one mounting hole in the box so that the thread of the screw protrudes from the back of the box. Lift the enclosure into position using such assistance as may be necessary to avoid injury and:-
  - a) If clearance mounting holes are used, insert the protruding thread through the appropriate clearance hole and secure with a nut on the other side of the mounting surface.
- Or
- b) If threaded holes are used, locate the end of the mounting screw over the thread hole and, using an appropriate screwdriver tighten the screw.
- 5) Rotate the box to line up the remaining mountings and repeat (4) above until all mounting screws have been fitted.
- 6) Secure the lid by closing the lid and tightening the lid fixing screws.

### Earthing /Grounding

The enclosure is provided with an external earth/ground connection. This must be connected to the appropriate earth bonding circuit before electrical power is connected to the contents of the enclosure.

### Operation

1. The lid must be secured using all of the lid screws provided in order to maintain the IP rating.
2. No attempt must be made to remove the enclosure lid whilst electrical power is connected to the contents of the enclosure.
3. The enclosure earth/ground facility must be connected to the earth bonding circuit at all times when power is connected to the enclosure.

### **Maintenance**

Routine maintenance is likely to be a requirement of local Health and Safety legislation. The laws of the applicable country must be considered and maintenance checks carried out accordingly.

Additional periodic checks that are advisable to ensure the efficiency of ABTECH range enclosures are:-

#### **Activity**

- 1 Check that the lid seal is in place and not damaged
- 2 Check that all lid fixing screws are in place and secured
- 3 Check that the mounting bolts are tight and free of corrosion
- 4 Check the security of all cable glands
- 5 Check for corrosion of the enclosure

#### **Frequency**

Each time the enclosure is opened  
Each time the enclosure is closed  
Annually  
Annually  
Annually,  
Every 3 months in corrosive atmospheres

### Chemical attack

The ABTECH ZAG range of enclosures are manufactured using the following materials:-

Aluminium – AlSi 12,  
Neoprene or silicone rubber,  
316 stainless steel.

Consideration should be given to the environment in which these enclosures are to be used to determine the suitability of these materials to withstand any corrosive agents that may be present.

### Static hazard

The ZAG range enclosures do not present a hazard from static electricity.

### Vibration

ZAG range terminal boxes are designed for use in areas subject to normal industrial levels of vibration. They are not designed for use in areas subject to intentional or extreme conditions of vibration.