



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEx SIR 12.0116U** issue No.: **0** Certificate history:

Status: **Current**

Date of Issue: **2012-10-08** Page 1 of 4

Applicant: **ABTECH Limited**  
Sanderson Street  
Lower Don Valley  
Sheffield S9 2UA  
United Kingdom

Electrical Apparatus: **ZAG Range of Enclosures**  
Optional accessory:

Type of Protection: **Increased safety, Intrinsically safe and dust**

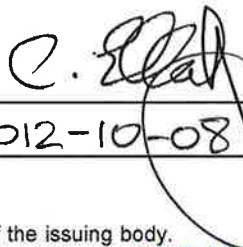
Marking: **Ex e IIC Gb** Or **Ex ib IIC Gb**  
**Ex tb IIIC Db IP6X** **Ex tb IIIC Db IP6X**

Approved for issue on behalf of the IECEx Certification Body: **C Ellaby**

Position: **Deputy Certification Manager**

Signature:  
(for printed version)

Date:

  
\_\_\_\_\_  
**2012-10-08**  
\_\_\_\_\_

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**SIRA Certification Service**  
Rake Lane  
Eccleston  
Chester  
CH4 9JN  
United Kingdom

**sira**  
CERTIFICATION



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Manufacturer: **ABTECH Limited**  
Sanderson Street  
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Sheffield S9 2UA  
United Kingdom

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus 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:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2011-06</b> Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-31 : 2008</b> Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
<b>IEC 60079-7 : 2006-07</b> Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

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

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:

[GB/SIR/ExTR12.0245/00](#)

Quality Assessment Report:

[GB/SIR/QAR06.0046/04](#)



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## Schedule

### EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

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

ZAGReference	Length (mm)	Width(mm)	Height (mm)	ZAGReference	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 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. There is an option to fit slotted trunking inside the enclosures, this trunking may be sited as required.

### CONDITIONS OF CERTIFICATION: NO



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## EQUIPMENT(continued):

### Conditions of manufacture

The Manufacturer shall comply with the following:

1. 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.
2. 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
3. When trunking is fitted, it may be sited as required and the minimum creepage and clearance distances shall still be met.

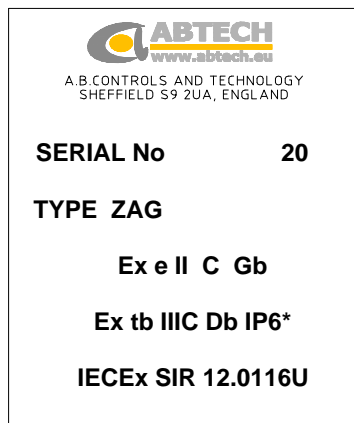
### Schedule of limitations

The user/installer shall comply with the following:

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

## INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS FOR ABTECH 'ZAG' Range Enclosures – IECEx SIR 12.0116U



### 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  $T_{amb}$ \_\_\_\_\_.

The Ex e marking may be replaced by Ex ia or Ex ib. Enclosures marked Ex ia or Ex ib may only be used for terminating intrinsically safe circuits.

### 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) Where slotted trunking has been supplied (solid trunking is not permitted) ensure that it is suitable for the proposed T classification of the final certified product. Where the T6 is the proposed rating and no windows are fitted any polymeric or metallic slotted trunking may be used. For other T classifications and where a window is fitted metallic slotted trunking must be used. Trunking may be mounted in any orientation in the box, vertically, horizontally or diagonally.
- 7) 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.

An earth connection between the lid and the box is provided. Care must be taken to ensure this is not damaged during installation or maintenance.

### 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:-

<u>Activity</u>	<u>Frequency</u>
1 Check that the lid seal is in place and not damaged	Each time the enclosure is opened
2 Check that all lid fixing screws are in place and secured	Each time the enclosure is closed
3 Check that the lid earth strap is not frayed or damaged and is secure at both ends	Each time the enclosure is opened
4 Check lid earth strap continuity (hot work permit may be required)	Every 3 years
5 Check that the mounting bolts are tight and free of corrosion	Annually
6 Check the security of all cable glands	Annually
7 Check for corrosion of the enclosure	Annually, Every 3 months in corrosive atmospheres

### Chemical attack

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

Aluminium – AISi 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.