



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

Certificate No.: **IECEx SIR 05.0046U** issue No.: **2**
Status: **Current**
Date of Issue: **2012-10-05** Page 1 of 4

Certificate history:
Issue No. 2 (2012-10-5)
Issue No. 1 (2010-12-7)
Issue No. 0 (2006-10-25)

Applicant: **ABTECH Limited**
A B Controls and Technology
Sanderson Street
Sheffield
South Yorkshire S9 2UA
United Kingdom

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

Type of Protection: **Increased Safety and Dust**

Marking: Ex e IIC Gb Or Ex ib IIC Gb
Ex tb IIIC Db IP6X Ex tb IIIC Db IP6X
(Dust marking applied on enclosure sizes of SX8 or smaller only)

Approved for issue on behalf of the IECEx
Certification Body:

C Ellaby

Position:

Deputy Certification Manager

Signature:
(for printed version)

Date:

2012-10-05

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
Ecclestone
Chester
CH4 9JN
United Kingdom

sira
CERTIFICATION



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Manufacturer: **ABTECH Limited**
A B Controls and Technology
Sanderson Street
Sheffield
South Yorkshire 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:

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

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

IECEx ATR:	File Reference:
GB/SIR/ExTR06.0098/00 GB/SIR/QAR06.0046/00	51L12177
GB/SIR/ExTR10.0283/00 GB/SIR/QAR06.0046/02	51L23461
GB/SIR/ExTR12.0245/00 GB/SIR/QAR06.0046/04	R25164A/00



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The SX Range of Enclosures are manufactured in various sizes and are manufactured from steel (or alloys of steel), stainless steel, brass or other alloys of copper. The enclosures consist of a main body and a detachable lid with or without hinges. Refer to the certificate Annexes for a full product description.

CONDITIONS OF CERTIFICATION: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1 – this Issue introduced the following changes:	
1	The option to increase the maximum depth from 500 mm to 2000 mm was endorsed, this has resulted in the amendment of Table 1.
Issue 2 – this Issue introduced the following changes:	
1	The Description was aligned with certificate no. Sira 99ATEX3170U associated with this enclosure, this included recognising the following changes assessed as part of that certificate. <ul style="list-style-type: none">* 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.* 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.
2	Following appropriate re-assessment to demonstrate compliance with the requirements of the latest standards, the documents previously used for assessment were replaced by those currently listed, the markings were updated accordingly. In addition, the enclosure was allowed to be used for intrinsically safe applications and IEC 60079-11:2012 Edition 6 was included in the list of supporting standards.
3	The Description, Schedule of Limitations and Condition of Manufacture were amended to recognise that closed cell polychloroprene gaskets and neoprene bonded cork gaskets are no longer used.
4	A Condition of Manufacture was amended to include an additional constraint.

Annexe to: IECEx SIR 05.0046U Issue 2
Applicant: ABTECH Limited
Component: SX Range of Enclosures



The SX range of Enclosures are manufactured from steel, stainless steel or brass, other alloys of steel or other alloys of copper, and are manufactured in the following sizes:

SX Ref.	Group and Category	Length (mm)	Width (mm)	Depth (mm)	
				Min.	Max.
SX0	II 2 G D	229	152	140	2000
SX0.5	II 2 G D	274	184	140	2000
SX1	II 2 G D	324	234	140	2000
SX1.5	II 2 G D	306	306	140	2000
SX2	II 2 G D	324	372	140	2000
SX3	II 2 G D	448	372	140	2000
SX4	II 2 G D	510	372	140	2000
SX5	II 2 G D	510	510	140	2000
SX6	II 2 G D	780	510	140	2000
SX7	II 2 G D	950	650	140	2000
SX8	II 2 G D	1250	800	140	2000
SX225	II 2 G	2000	2000	140	2000
SX45	II 2 G D	114	114	51 (Nominal)	
SX64	II 2 G D	152	102	63 (Nominal)	
SX66	II 2 G D	152	152	102 (Nominal)	

Enclosures may also be manufactured to sizes not specified in the above 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 lid may be hinged and gland plates may be provided on the base, top, sides or back of the enclosure. Cable entries may be provided either through the gland plates or in the enclosure walls. Threaded bosses may be provided welded, brazed or soldered into position. An external and optional internal earth stud is provided on all Enclosures of minimum size M6. Gaskets are manufactured from closed cell silicone rubber strip or solid silicone rubber, permitting a temperature range of -50°C to +180°C (without window).

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Schedule of Limitations

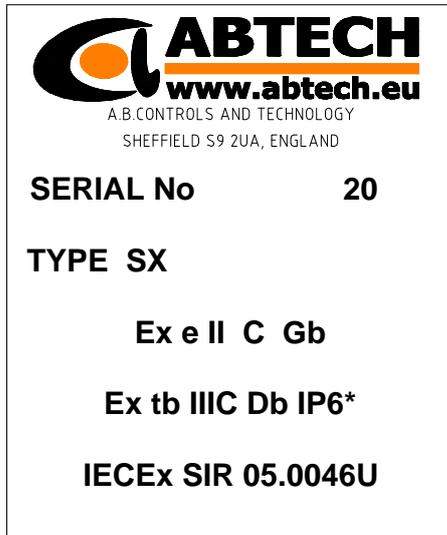
- i. The following parts used in the construction have the service temperature ranges listed below; when the SX Enclosures are assessed as equipment these temperature values shall not be exceeded:

Item	Service Temperature Range	
	Minimum	Maximum
Closed cell silicone strip gasket	-50°C	+180°C
Solid silicone rubber gasket	-50°C	+180°C
Glass window	-50°C	+80°C
Blanking plugs, reducers, adapters and breather drains	Refer to associated certificate	Refer to associated certificate

Conditions of Manufacture

- i. 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.
- ii. 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:** Closed cell silicone strip gasket
Solid silicone rubber gasket
Glass window
Blanking plugs, reducers, adapters and breather drains
- i. When trunking is fitted, it may be sited as required and the minimum creepage and clearance distances shall still be met.

INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS FOR ABTECH 'S' RANGE ENCLOSURES – IECEx SIR 05.0046U



Marking

The marking shown is for a component certified enclosure. The user must submit the completed 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 Tamb_____.

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.

The standard IP rating is IP66 but may show IP67 or IP68.

Installation

- 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 either M8 or M9 fixing studs (for size S64 upwards) or for M6 fixing studs for size S45.
- 3) Insert the top two studs leaving 8 to 10mm protruding. Lift the enclosure into position using such assistance as may be necessary to avoid injury and hang the top fixing brackets of the box onto the studs. Ensuring that the box is secure, insert and tighten the bottom two studs. Now complete tightening the top two studs.
- 4) Install and secure the cable glands in accordance with the manufacturers instructions.
- 5) 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.
- 6) Secure the lid by closing the lid and tightening the lid fixing screws and ensure that all gland plate securing screws are tightened.
- 7) For additional security a padlock may be fitted to all box sizes larger than and including size S0.

Earthing/Grounding

All S range enclosures are provided with an internal and external earthing/grounding facility. 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 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 earthing/grounding facility must be connected to the earth bonding circuit at all times when electrical 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 checks that are advisable to ensure the efficiency of ABTECH 'S' range enclosures are:-

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

Chemical attack

The ABTECH S range enclosures are available in mild steel or 316 stainless steel. The following additional material are also used :-

Neoprene or silicone rubber,
Brass.

If the enclosure is of mild steel it may be zinc plated prior to painting. The standard paint finish is epoxy polyester grey hammer.

Stainless steel enclosures are not painted except to customer specifications.

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

S range enclosures do not present a hazard from static electricity.