



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 99ATEX3170U** Issue: **10**

4 Component: **SX 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:

IEC 60079-0:2011 EN 60079-7:2007 EN 60079-11:2012 EN 60079-31:2009

This report may be issued against standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation. Sira's flexible scope is available on request.

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 IIC Gb  
Ex tb IIIC Db IP6X

Or



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

(The markings for dust are not applied to enclosures that are larger than SX8)

Project Number 25164

C Ellaby  
Deputy Certification Manager

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13 DESCRIPTION OF COMPONENT

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).

**Variation 1** - This variation introduced the following changes:

- i. A minor revision of the information marked on the label was recognised.

**Variation 2** - This variation introduced the following changes:

- i. The use of a solid silicone rubber cover-sealing gasket was endorsed

**Variation 3** - This variation introduced the following changes:

- i. The maximum permitted window size of the SX enclosures was increased.

**Variation 4** - This variation introduced the following changes:

- i. The inclusion of reinforcement to the inside or outside of the enclosure, as required, to withstand possible submersion pressures.



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**Variation 5** - This variation introduced the following changes:

- i. The recognition of the change of status of drawing number ABT 10302, the design of the component box is unaltered and the drawing has been modified to introduce changes in equipment that utilises this box.

**Variation 6** - This variation introduced the following changes:

- i. The clarification of the service temperature ranges associated with the SX terminal boxes and the introduction of an associated special condition for safe use and two, new conditions of certification.

**Variation 7** - This variation introduced the following changes:

- i. The option to increase the maximum depth from 500 mm to 2000 mm was endorsed; this has resulted in the amendment of the above table.
- ii. An amendment to the product description to correct a previous omission and to align it with certified drawing ABT 10302 revision D.

**Variation 8** - 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 9** - 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 50014:1997, EN 50019:1994 and EN 50281-1-1:1999, 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, Special Condition for Safe Use and Condition of Certification were amended to recognise that closed cell polychloroprene gaskets and neoprene bonded cork gaskets are no longer used.
- iii. Condition of Certification clause 17.3 was amended to include an additional constraint.
- iv. A restriction on dust marking was recognised.

## 14 DESCRIPTIVE DOCUMENTS

### 14.1 Drawings

Refer to Certificate Annexe.

### 14.2 Associated Sira Reports and Certificate History

Issue	Date	File/Report no.	Comment
0	24 February 2000	R51X6055C	The release of prime certificate.
1	28 September 2001	53V7936	A minor revision of the information marked on the label.

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Issue	Date	File/Report no.	Comment
2	29 July 2002	R53A7250A	The use of a solid silicone rubber cover-sealing gasket.
3	22 February 2005	R51A12595A	The increase of the maximum permitted window size of the SX enclosures
4	25 April 2006	R51V14986A	The inclusion of reinforcement, as required, to the inside or outside of the enclosure to withstand possible submersion pressures
5	15 August 2006	R51A15308A	The recognition of the change of status of drawing number ABT 10302, the design of the component box is unaltered and the drawing has been modified to introduce changes in equipment that utilises this box.
6	16 July 2010	R22595A/00	This Issue covers the following changes: <ul style="list-style-type: none"><li>All previously issued certification was rationalised into a single certificate, Issue 6, Issues 0 to 5 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 Applicant's name, first recognised 31 January 2007, was re-confirmed.</li><li>The introduction of Variation 6.</li></ul>
7	18 November 2010	R23461A/00	The introduction of Variation 7.
8	03 April 2012	R26585A/00	The introduction of Variation 8.
9	11 June 2012	R26585A/01	Report R26585A/01 replaced report R26585A/00.
10	5 October 2012	R25164A/00	The introduction of Variation 9.

15 SPECIAL CONDITIONS FOR SAFE USE

- 15.1 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

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 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:** Closed cell silicone strip gasket  
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.

# Certificate Annexe

Certificate Number: Sira 99ATEX3170U  
Component: SX Range of Enclosures  
Applicant: ABTECH Limited



## Issue 0

Drawing	Sheet	Rev.	Date	Description
ABT 10257	1 of 1	A	21 Dec 99	External label (SX) Maximum Box Size S8
ABT 10302	1 of 1	A	16 Nov 99	SX Manufacturing specification
ABT 10371	1 of 1	A	10 Jan 00	SX Range Enclosures

## Issue 1

Drawing	Sheet	Rev.	Date	Description
ABT 10257	1 of 1	B	20 Jul 01	External Label (SX) Maximum Box Size S8

## Issue 2

Drawing	Sheet	Rev.	Date	Description
ABT 10302	1 of 1	C	4 Jul 02	SX Manufacturing Specification

## Issue 3

Drawing	Sheet	Rev.	Date	Description
ABT 14398	1 of 1	A	20 Oct 04	SX Range large window

## Issue 4

Drawing	Sheet	Rev.	Date (Sira Stamp)	Description
ABT 10302	1 of 1	D	25 Apr 06	SX Manufacturing Specification
ABT 10371	1 of 1	B	25 Apr 06	SX Range of Enclosures

## Issue 5

Drawing	Sheet	Rev.	Date (Sira Stamp)	Description
ABT10302	1 of 1	D	11 Jul 06	Manufacturing Specifications

## Issue 6

Drawing	Sheet	Rev.	Date (Sira Stamp)	Description
ATB10257	1 of 1	C	16 Jun 2010	Nameplate

## Issue 7

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
ABT 10371	1 of 1	C	04 Nov 10	SX Range of Enclosures

## Issue 8

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
ATB10257	1 of 1	D	29 Mar 12	SX Nameplate – Empty Enclosures
ABT 10302	1 of 1	E	02 Apr 12	SX Manufacturing specification

Issue 9 (No new drawings were introduced.)

## Issue 10

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
ATB 10257	1 of 1	E	30 Sept 12	SX Nameplate – Empty Enclosures External label (SX) Maximum Box Size S8
ABT 10302	1 of 1	F	27 Sept 12	SX Manufacturing Specifications
ABT 10371	1 of 1	D	27 Sept 12	SX Range of Enclosures
ABT 14398	1 of 1	B	27 Sept 12	SX Range large window

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