



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 11ATEX1157X** Issue: **0**

4 Equipment: **VisEx Camera Housing**

5 Applicant: **ABTECH Limited**

6 Address: **5 Sanderson Street
Sheffield
S9 2UA
UK**

7 This equipment and any acceptable variation thereto is 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 equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment 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 60079-0:2009

EN 60079-1:2007

EN 60079-31:2009

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

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

12 The marking of the equipment shall include the following:



II 2GD

Ex d IIC T• Gb or

Ex tb IIIC T• °C Db IP6X

Ta = -60°C to +65°C

- Refer to the description

Project Number 23925

C Ellaby
Deputy Certification Manager

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 11ATEX1157X
Issue 0

13 DESCRIPTION OF EQUIPMENT

The equipment is a flameproof and dust protected VisEx Camera Housing that accommodates a camera together with associated equipment rated up to 60 V DC.

The VisEx Housing comprises a cylindrical threaded main body and a cylindrical threaded front body both manufactured from stainless steel, a glass window is secured by a threaded, stainless steel retaining ring. It is provided with two, metric threaded, cable entries, each for the accommodation of a suitably certified, cable entry device with or without the interposition of a suitably certified, thread adapter. A mounting bracket is fitted internally to accommodate the camera and its associated equipment, threaded external holes are provided for the fitting of mounting brackets. The main body and front body are screwed together and secured with a locking arrangement incorporating a stainless steel M3 grub screw provided on the periphery of the front body to prevent unauthorised removal. An O-ring is provided between the main and front body and in the window arrangement to provide a degree of ingress protection IP6X.

The following table details the power ratings of the equipment together with the essential temperature limitations that apply to these ratings

Max. ambient temperature	Max. power rating (W)	Temperature classification	Max. external surface temperature for dust	Cable entry temperature warning applied to label
40°C	8	T6	T55°C	Not required
55°C	8	T6	T70°C	Not required
65°C	8	T6	T80°C	Cable entry temperature may reach 80°C, cabling to be suitable
40°C	47	T4	T105°C	Cable entry temperature may reach 105°C, cabling to be suitable
55°C	47	T4	T120°C	Cable entry temperature may reach 120°C, cabling to be suitable
65°C	47	T4	T130°C	Cable entry temperature may reach 130°C, cabling to be suitable

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	25 July 2012	R23925A/00	The release of the prime certificate.

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Sira Certification Service

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SCHEDULE

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Issue 0

15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)

- 15.1 The equipment shall be installed such that it is protected from a high risk of mechanical danger.
- 15.2 The equipment incorporates a flameproof spigot joint formed between the glass window and the front body which has dimensions which are other than the relevant maximum or minimum in Table 2 in EN 60079-1 as shown below:

Part of spigot joint	Minimum width [mm]	Maximum clearance/gap [mm]
Plain part	7.325	0.1
Cylindrical part	8.9	0.15

Users shall take these dimensions into account where necessary during maintenance of the equipment.

- 15.3 The equipment is not provided with an external earth facility and therefore shall only be connected to wiring systems that do not require an external earth connection to be provided.
- 15.4 Only the connection facilities provided with the internal components are to be used for the connection of the equipment.

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.
- 17.3 The equipment is not provided with an internal earth facility and therefore shall only be fitted with internal components which do not require to be connected to an earth facility.
- 17.4 The installation of the camera and associated equipment within the VisEx Camera Housing is the responsibility of the manufacturer.

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Certificate Annexe

Certificate Number: Sira 11ATEX1157X
Equipment: VisEx Camera Housing
Applicant: ABTECH Limited



Issue 0

Drawing	Sheets	Rev	Date (Sira stamp)	Title
ABT22895	1 of 1	A	13 Jul 12	Front Body Housing
ABT22896	1 of 1	A	13 Jul 12	General Arrangement
ABT22400	1 of 1	A	13 Jul 12	Glass Window Details
ABT22401	1 of 1	A	13 Jul 12	Retaining Ring
ABT22402	1 of 1	A	13 Jul 12	Main Body Housing
ABT22404	1 of 1	A	13 Jul 12	O-Ring Details [2 mm dia]
ABT23915	1 of 1	A	13 Jul 12	O-Ring Details [3 mm dia]
ABT23870	1 of 1	A	13 Jul 12	ATEX/IECEx Label drawing

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INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS FOR ABTECH VisEx Camera Housing – SIRA11ATEX1157X, IECEx SIR 11.0071X



Marking

The marking shown is indicative of a category 2 VisEx camera housing for use in zone 1 and zone 2 applications.

The maximum power value, T rating and serial number, should be marked on the label. (see table 1. below for further details with respect to marking information)

Special Conditions for Safe Use

The following conditions for safe use apply to the use and operation of the VisEx camera housing:

1. The equipment shall be installed such that it is protected from a high risk of mechanical danger.
2. The equipment incorporates a flameproof spigot joint formed between the glass window and the front body which has dimensions which are other than the relevant maximum or minimum in Table 2 in IEC 60079-1 as shown below:

Part of spigot joint	Minimum width (mm)	Maximum clearance/gap (mm)
Plain part	7.325	0.1
Cylindrical part	8.9	0.15

3. The user shall take these dimensions into account where necessary during maintenance of the equipment.
4. The equipment is not provided with an external earth facility, therefore, it shall only be connected to wiring systems that do not require an external earth connection.
5. Only the connection facilities provided with the internal components are to be used for the connection of the equipment.

Mounting the Camera Housing

1. The VisEx camera housing is manufactured using stainless steel, toughened glass and has silicone rubber IP seals. Consideration should be given to the limitations of the materials used when selecting a suitable mounting location.
2. The VisEx camera housing is certified for use in areas subject to low mechanical risk and care should be taken to ensure that the housing is not sited in areas where a high risk of impact is likely.
3. A variety of mounting brackets are available and advice on this should be sought from Abtech technical department.
4. All mounting brackets are attached to the body via the four mounting holes on the main body (2 x M8 each side). These are the only attachment points for mounting the camera housing.
5. Under no circumstances should additional mounting holes be drilled into the enclosure wall, brackets must not be welded to the enclosure wall.

Equipment Connection

- 1) Up to 2 connection cables may be connected to the equipment and should enter the housing via the 2 threaded through holes on the rear face of the main body. The threaded cable entry holes are either M16 or M20 and the size is marked adjacent to each hole. Cable glands must be approved for Ex d IIC and shall be appropriate for the cabling being used. Any unused hole must be fitted with an approved Ex d IIC stopping plug. Cable glands and stopping plugs must be suitable for the appropriate cable entry temperature as detailed in table 1. Cable glands and stopping plugs must be fitted with seals where appropriate to maintain a degree of protection IP6X and in accordance with the cable gland manufacturers instruction.

Table 1

T Rating	Max Power	Max Tamb	Max Surface Temp	Cable Temp Warning
T6	8W	40°C	T55°C	Not applicable
T6	8W	55°C	T70°C	Not applicable
T6	8W	65°C	T80°C	Cable entry temperature may reach 80°C, cabling to be suitable
T4	47W	40°C	T105°C	Cable entry temperature may reach 105°C, cabling to be suitable
T4	47W	55°C	T120°C	Cable entry temperature may reach 120°C, cabling to be suitable
T4	47W	65°C	T130°C	Cable entry temperature may reach 130°C, cabling to be suitable

- 2) The front cover assembly should be screwed by hand onto the main body, until the bottom face contacts the main body, taking care not to cross the threads. A suitable non-setting, non corrosive grease such as silicone or molybdenum grease should be applied to the threads prior to fitting. Once screwed up fully, the M3 grub screw should be tightened to prevent loosening of the front cover assembly.
- 3) Disassembly is the reversal of assembly.
- 4) Mounting of the camera housing is by means of the 2 x M8 screw holes (4 in total) on either side of the main housing. The screws fitted to this should have a maximum length not exceeding 15mm.

Front Cover Assembly

1. To disassemble, first remove front cover assembly as described above.
2. Unscrew retaining ring using the 2 holes in the front for leverage.
3. Remove 'o' ring and glass window. Thoroughly clean the cover housing ensuring all traces of threadlock adhesive has been removed from the front screw thread and from the retaining ring. Check 'o' ring for damage or wear and replace if necessary.
4. Inspect the flamepath and glass window for any signs of damage, chipping, dents or corrosion. If in doubt, contact Abtech technical department for advice. Replacement parts can only be supplied from Abtech.
5. To reassemble, slide glass into glass recess. Ensure glass is fully seated against spigot at base of glass recess.
6. Refit or renew the 'o' ring and fit into the 'o' ring groove.
7. Apply threadlock adhesive to the threads of the retaining ring and hand tighten until it meets the glass. Using a 0.10mm feeler gauge, check the gap between the rear face of the glass and the front face of the spigot. The feeler gauge should not fit into the gap. If the feeler gauge can fit into the gap the glass will have to be removed and refitted, checking for any dirt or damage which is preventing proper seating of the glass.
8. Refit the front cover assembly to the main body as described above.

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 safety and efficiency of VisEx Camera housing are:-

Activity	Frequency
1 Check housing is adequately secured	In accordance with EN60079-17:2007 Explosive atmospheres. Electrical installations inspection and maintenance
2 Check visually that there are no cracks or bulges in the wall of the enclosure and that there is no corrosion on the flamepaths or threaded joints.	
3 Check the cable gland in accordance with the cable gland manufacturers instructions	
4 Check security of grub screw	

Chemical attack

The VisEx camera housing is manufactured using the following materials:- stainless steel, toughened glass, silicone rubber. 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

No static hazard is present

Vibration

The VisEx camera housing is designed for use in areas subject to normal industrial levels of vibration. It is not designed for use in areas subject to intentional or extreme conditions of vibration.