



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 CML 16.0069X Issue No: 2 Certificate history:
Issue No. 2 (2018-11-08)
Status: **Current** Page 1 of 4 Issue No. 1 (2018-04-26)
Date of Issue: **2018-11-08** Issue No. 0 (2017-02-08)
Applicant: **Elecex Ltd.**
1 Castle Road
Falkirk
FK2 7UY
United Kingdom
Equipment: **Air 1B & Air 1C Portable Air Conditioning System**
Optional accessory:
Type of Protection: **Non electrical, increased safety**
Marking:
Ex db eb ia [ia IIC] mb pxb IIB/IIB+H₂* T** Gb
Ex h IIB/IIB+H₂* T** Gb
Tamb = -20°C to +50°C
Full marking is shown for clarity
* The Air 1B is suitable for IIB. The Air 1C is suitable for IIB+H₂.
** The temperature class may be T4 or T3.

Approved for issue on behalf of the IECEX
Certification Body:

A Snowdon MIET

Position:

Certification Officer

Signature:
(for printed version)

Date:

November 8, 2018

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:

Certification Management Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





IECEX Certificate of Conformity

Certificate No: IECEX CML 16.0069X

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Page 2 of 4

Manufacturer: **Elecex Ltd.**
1 Castle Road
Falkirk
FK2 7UY
United Kingdom

Additional 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 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 60079-7 : 2015 Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

Edition:5.0

ISO 80079-36 : 2016 Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements

Edition:1.0

*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/CML/ExTR16.0086/00](#)

[GB/CML/ExTR18.0089/00](#)

[GB/CML/ExTR18.0250/00](#)

Quality Assessment Report:

[GB/CML/QAR15.0010/05](#)



IECEX Certificate of Conformity

Certificate No: IECEx CML 16.0069X

Issue No: 2

Date of Issue: 2018-11-08

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Air 1B and Air 1C Portable Air Conditioning System.

Refer to Annex for full description and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Annex for Specific Conditions of Use and Conditions of Manufacture.



IECEx Certificate of Conformity

Certificate No: IECEx CML 16.0069X

Issue No: 2

Date of Issue: 2018-11-08

Page 4 of 4

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

Issue 1

This variation introduced the following modifications:

- i. Introduction of alternative options for the constituent parts which the complete units include.
- ii. Introduction of the option to replace the unit's constituent parts with equivalent parts which meet a specific criteria.
- iii. Introduction of alternative wiring options.
- iv. Introduction of drawing changes. Some of these changes are to allow different versions of the units to be constructed.
- v. Introduction of the Model 'Air 1C'. The gas group for this model is 'IIB+H₂'; the certificate has been updated to show this marking option.

Issue 2

This variation introduced the following modifications:

- i. The change of manufacturer's address.

Annex:

[IECEx CML 16.0069X Certificate Annex Iss 2.pdf](#)

Annexe to: IECEx CML 16.0069X Issue 2
Applicant: Elecex Ltd.
Apparatus: Air 1B & Air 1C Portable Air Conditioning System



Description

The Air 1B and Air 1C Portable Air Conditioning Systems are direct expansion air conditioning machines comprising an evaporator duct, a condenser duct, a compressor and controls.

In the evaporator duct air is drawn through the duct by a steel evaporator fan, the duct also houses a particulate filter and a manually adjustable volume control damper. Also within the unit is the condenser duct which has sand/dust filters on the inlet and outlet sides. The condenser duct houses an axial fan which draws air through this duct. The unit also houses a compressor and a flameproof enclosure containing electronics which are used to control the operation of the unit.

The entire unit is housed within a metal frame with metal panels on all faces, forming an external enclosure. Two of the panels on either side of the unit are hinged doors and can be opened to gain access to internal parts. The mains power cable exits the machine on the top face of the unit and there is a condensed water drain recessed into the base.

There is a control panel on one side of the external enclosure, featuring a digital display, an emergency-stop button, a mode selection switch and a remote thermostat socket, all of which are accessible from outside the enclosure.

All electrical parts are previously IECEx certified, and electrical connections between the various parts are made via certified cable glands. In addition to the above main parts of the system, there are several other previously certified parts included, which are relied on for the operation of the system.

Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. The product incorporates certified parts or safety critical components. The manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
- ii. The increased safety wiring of all units shall be subjected to a routine dielectric strength test in accordance with IEC 60079-7:2015, clause 7.1. The test voltage and duration shall be selected based on the rated voltage of the circuit being tested and in accordance with IEC 60079-15:2015, clauses 7.1 and 6.1. No breakdown or flashover shall occur.
- iii. The Air Conditioning System assemblies comprise several previously IECEx certified parts. All of these parts shall be installed in accordance with IEC 60079 14, in accordance with any special conditions for safe use/conditions of certification defined on their IECEx certificate (which are relevant in manufacturing the unit) and in accordance with their instruction manuals.
- iv. Any special conditions for safe use/conditions of certification which appear on the IECEx certificates for the previously certified parts forming the system, which are relevant to the models used and which are relevant to the end-user, shall appear in the instruction manual for the overall assembly.

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- v. It shall be ensured that the temperature class limit of the previously equipment certified parts installed shall be no higher than that which is marked on the overall assembly.
- vi. All wiring to the compressor shall be suitable for a service temperature range of -20°C to +90°C.

Special Conditions for Safe Use (IECEx Specific Conditions of Use)

The following conditions relate to safe installation and/or use of the equipment.

- i. There are conditions specified in the instruction manual for the assembly which relate to the correct installation, operation and maintenance of the constituent parts forming the Air Conditioning System assemblies. These conditions shall be observed and complied with in order to ensure safe use of the equipment.