



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 16.0020X Issue No: 2 Certificate history:
Status: **Current** Issue No. 2 (2019-08-27)
Date of Issue: **2019-08-27** Page 1 of 4 Issue No. 1 (2017-06-28)
Applicant: **Abtech Limited** Issue No. 0 (2016-07-01)
199/201 Newhall Road,
Lower Don Valley,
Sheffield,
S9 2QJ
United Kingdom

Equipment: **Nimbus Panel and Driver Modules**
Optional accessory:

Type of Protection: **Increased safety, Powder filled, Intrinsic safety**

Marking: Ex eb [ib Gb] qb IIB T4 Gb or Ex ec [ic Gc] qc IIC T4 Gc - PSU/Driver Module
Ex ib IIB T4 Gb or Ex ic IIC T4 Gc - Light Panel
Tamb -20°C to +45°C

Approved for issue on behalf of the IECEx
Certification Body:

H M Amos MIET

Position:

Technical Manager

Signature:
(for printed version)

Date:

August 27, 2019

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:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





IECEX Certificate of Conformity

Certificate No: IECEX CML 16.0020X Issue No: 2

Date of Issue: **2019-08-27** Page 2 of 4

Manufacturer: **Abtech Limited**
199/201 Newhall Road,
Lower Don Valley,
Sheffield,
S9 2QJ
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 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-5 : 2015 Edition:4.0	Explosive atmospheres –Part 5: Equipment protection by powder filling "q"
IEC 60079-7 : 2015 Edition:5.0	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/CML/ExTR17.0111/00](#) [GB/CML/ExTR16.0084/00](#)

Quality Assessment Report:

[GB/CML/QAR16.0021/02](#)



IECEX Certificate of Conformity

Certificate No: IECEX CML 16.0020X

Issue No: 2

Date of Issue: 2019-08-27

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The NIMBUS ** LED Panel is a range of various sized LED flat panels which are supplied by an intrinsically safe supply from the Nimbus Driver Unit (NDU).

See Annex for full description and Conditions of Manufacture

SPECIFIC CONDITIONS OF USE: YES as shown below:

See Annex for Conditions of Certification



IECEX Certificate of Conformity

Certificate No: IECEx CML 16.0020X

Issue No: 2

Date of Issue: 2019-08-27

Page 4 of 4

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

Issue 1

The following changes were implanted as part of this issue:

1. To increase the upper ambient temperature limit from +40°C to +45°C.

Issue 2

The following changes were implanted as part of this issue:

1. To update QAR reference

Annex:

[Certificate Annex IECEx CML 16.0020X Iss2.pdf](#)

Annexe to: IECEx CML 16.0020X Issue 2

Applicant: Abtech Ltd

Apparatus: Nimbus LED Driver NDU** Zone 1 & 2
 Nimbus Emergency LED Driver NDEU** Zone 1 & 2
 Nimbus LED Panels NIMBUS** Zone 1 & 2



Description

The NIMBUS ** LED Panel is a range of various sized LED flat panels which are supplied by an intrinsically safe supply from the Nimbus Driver Unit (NDU).

The Nimbus LED Driver is designed to be supplied from a source voltage of between 90Vac and 250Vac 50/60Hz. The Abtech Zag aluminium enclosure comprises of two compartments, one containing a switch mode power supply and a LED driver circuit, which are protected by sand filling the void. The other compartment contains a terminal block to permit the connection of both the mains and the intrinsically safe output.

Intrinsic safety is provided by duplicated voltage and current trips that provide the following outputs:

Um = 250Vac
 Uo = 13.5V
 Io = 2A
 Co = 0
 Lo = 0

Intrinsic safety of the Nimbus LED Driver is achieved by limiting energy storage and discharge, and by connecting to the non-hazardous area via the intrinsically safe LED Driver

The LED panel consists of an acrylic (PMMA) panel with an aluminium surround and a series of LED's which illuminate the acrylic panel. The panel can be laid into a modular ceiling or attached to a surface by means of fixing brackets or screws directly into the frame surround. The panel is connected to the NDU by means of a 2 core cable which is permanently attached to the panel. The Nimbus LED Panels come in four sizes:

Size (L x W) mm	Nominal Voltage	Nominal Power
150 x 150	12V	13W
300 x 300	12V	17W
600 x 275	12V	20W
600 x 300	12V	20W

Each version has the following input parameters:

Ui = 13.5V
 Ii = 2A
 Ci = 0
 Li = 0

Unit 1, Newport Business Park
 New Port Road
 Ellesmere Port
 CH65 4LZ

T +44 (0) 151 559 1160
 E info@cmllex.com

www.cmllex.com

Company Reg No. 8554022 VAT No. GB163023642





The NDU consists of an intrinsically safe LED driver pcb, housed in an enclosure which is protected by sand filling. The complete sand filled driver unit is housed in an Ex e component certified Abtech Zag aluminium enclosure under Sira 99ATEX3174U and IECEx SIR12.0116U.

Termination for the mains input and the panel output supply is via a component certified Wago terminal block certified ATEX and IECEx under PTB 03ATEX1189U & IECEx PTB 05.0034U.

Emergency version:

The Nimbus Emergency LED Driver version is designed to be supplied from a source voltage of between 90Vac and 264Vac 50/60 Hz. The driver also incorporates the use of Saft type VTD70 Size D or Saft cell VNT D U HC Size D rechargeable nickel cadmium cells.

Termination for the mains input and the panel output supply as well as battery connections are connected via component certified BK 6/E terminal blocks certified ATEX and IECEx under Sira 01ATEX3247U and IECEx SIR 05.0035U.

Conditions of Manufacture

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

- i. Where 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. Each powder filled enclosure shall be subjected to a routine overpressure test at 50 kpa (0.5 bar) in accordance with IEC / EN 60079-5:2015, clause 5.2.1, for a minimum of 10 seconds. There shall be no permanent deformation exceeding 0,5mm in any of its dimensions. Alternatively, batch testing in accordance with clause EN / IEC 60079-5:2015, clause 5.2.1 may be conducted.
- iii. Each batch of the filling material shall be subjected to a dielectric strength test in accordance with EN / IEC 60079-5:2015, clause 5.2.2 for a minimum of 60 seconds.
- iv. The panel, when assembled to the driver must be subjected to a routine electric strength test of 500 V in accordance with IEC 60079-11 clauses 6.3.13, 10.3 and 11.2.

Special Conditions for Safe Use (Conditions of Certification)

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

- v. The cable supplied with the panel for connection to the NDU / NDEU has a maximum length of 4m and must not be lengthened. It may be cut to a required length to suit.
- vi. Only one Nimbus LED Panel may be connected to the Nimbus NDU driver unit.

- vii. Nimbus** LED Panel - Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces e.g. locate the equipment where a charge-generating mechanism (such as wind-blown dust) is unlikely to be present. In addition, the equipment shall only be cleaned with a damp cloth.
- viii. Nimbus** LED Panels – The enclosure is manufactured from aluminium. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation.
- ix. For Zone 2 applications, the input and in-line fuses may be removed. When this is the case, the equipment must be connected to an external protective device with a minimum breaking capacity of 1500 A.