EC CERTIFICATE OF CONFORMITY

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Certificate Number: **ABTECH 21ATEX4196X**

3 Equipment: **Nimbus LED Driver NDU** Zone 2**
Nimbus Emergency LED Driver NDEU Zone 2**
Nimbus LED Panels NIMBUS Zone 2**

4 Manufacturer: **Abtech Limited**

Address: **Newhall Road, Lower Don Valley, Sheffield, S9 2QJ, United Kingdom**

5 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

6 Abtech Limited as the manufacturer of the equipment identified in 3 above certifies that it has been tested and 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 of the Directive.

7 Compliance with the Essential Health and Safety Requirements, except for those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012+A11:2013; EN 60079-5:2015; EN 60079-11:2012; EN 60079-7:2015

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

9 This Certificate of Conformity 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.

10 The marking of the equipment shall include the following:

II 3 G
Ex ec [ic Gc] qc IIC T4 Gc (Ta= -20°C to +45°)

II 3 G
Ex ic IIC T4 Gc (Ta= -20°C to +45°C)

M Lancashire
Managing Director
Abtech Limited

Abtech Limited
Newhall Road,
Lower Don Valley
Sheffield,
South Yorkshire,
S9 2QJ, UK

11 Description of Equipment

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.
The 600 x 600 panel uses 2 discrete and separate IS circuits supplied through a single supply cable from the NDU.
Intrinsic safety is provided by duplicated voltage and current trips that provide the following outputs:

Um = 250Vac
Uo = 13.5V
Io = 2A / 4A (2 x 2A) – 600 x 600W panel)
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 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 or 4 core cable which is permanently attached to the panel. The Nimbus LED Panels come in five 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
600 x 600	12V	40W

Each version has the following input parameters:

Ui = 13.5V
Ii = 2A (4A (2 x 2A) – 600 x 600W panel)
Ci = 0
Li = 0

The NDU consists of 1 or 2 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.

For the 600W panel, one circuit is non-emergency and one circuit is emergency battery backup.

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 TUV 18ATEX8209U and IECEx TUR 18.0019U.

12 Certificate History

Issue	Date	Test Report	Description
0	01.07.21	R066043/R0; R65851	Issue of prime certificate

13 Conditions of Manufacture

1. 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.
2. 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.
3. 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.
4. 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.

14 Special Conditions for Safe Use

1. 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.
2. Only one Nimbus LED Panel may be connected to the Nimbus NDU / NDEU driver unit.
3. 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.
4. 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.
5. The equipment must be connected to an external protective device with a minimum breaking capacity of 1500 A.

15 Essential Health and Safety requirements

All relevant health and safety requirements are covered by the standards listed at item 7.

Certificate Number: ABTECH 21ATEX4196X

Equipment: **Nimbus LED Panel Luminaire**

Manufacturer: Abtech Limited

The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing/Document No.	Sheets	Revision	Date	Title
ABT39123	1	A	01.07.21	Certification Label Nimbus Panel/NDU
ABT39312	1	A	01.07.21	Certification Label Nimbus Emergency Panel/NDEU