



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX BAS 21.0043X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2021-12-01
Applicant: **Novosound Ltd**
BioCity, Bo'Ness Rd
Newhouse ML1 5UH
United Kingdom
Equipment: **BELENUS X**
Optional accessory:
Type of Protection: **Intrinsic Safety**
Marking: Ex ia IIC T6...T1 Ga

Approved for issue on behalf of the IECEx
Certification Body:

Mr R S Sinclair

Position:

Technical Manager

Signature:
(for printed version)

Date:

2/12/2021

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 www.iecex.com or use of this QR Code.



Certificate issued by:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton, Derbyshire, SK17 9RZ
United Kingdom





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Date of issue: 2021-12-01

Issue No: 0

Manufacturer: **Novosound Ltd**
BioCity
BoNess Rd
Newhouse ML1 5UH
United Kingdom

Additional
manufacturing
locations:

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 equipment 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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with 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/BAS/ExTR21.0149/00](#)

Quality Assessment Report:

[GB/BAS/QAR21.0017/00](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Belenus X is an ultrasonic sensor, primarily intended for permanent or semi-permanent asset monitoring. It comprises a proprietary piezoelectric material and sensor stack assembly housed within a steel enclosure. The enclosure is intended to be mechanically affixed to an asset such as a pipe, vessel or similar structure. The sensor stack may then be acoustically coupled to the asset surface through mechanical compression. The fixture includes an attached cable for termination to appropriate ultrasonic drive hardware.

T Class	Tmax (°C)	Tamb (°C)
T1	450	440
T2	300	290
T3	200	190
T4	135	125
T5	100	90
T6	85	75

There are two modes of operation:-

- When in a hazardous area the sensor may be either unconnected or supplied from equipment satisfying $U_0 \leq 28V$, $I_0 \leq 120mA$ & $P_0 \leq 0.8W$.
- When in a safe area, or in an area covered by a gas free Certificate or hot work permit, the sensor may be connected to and operated from unspecified equipment that by definition may allow mains supply voltages to reach the sensor.

Entity Parameters (Hazardous Area)

$U_i = 28 V$, $I_i = 120 mA$, $P_i = 0.8 W$, $C_i = 3.95nF$, $L_i = 75\mu H$

Entity Parameter (Gas Free Certificate / Hot Work Permit / Safe Area)

$U_m = 253V$

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The Belenus X Ultrasonic Transducer terminal parameter of $U_m = 253V$ is applicable only when in a safe area. Deriving the supply to the transducer from un-assessed equipment will not cause Intrinsic Safety to have been invalidated for subsequent use in hazardous areas.
2. Models with a serial number ending "-C" have an exposed copper gasket edge so may not be used in atmospheres containing acetylene. Models with a serial number ending "-A" may be used in any Group II atmosphere.
3. The Belenus X Ultrasonic Transducer is not proven to be capable of withstanding 500V a.c. between circuits and earth. This must be taken into account when connected to in a hazardous area.
4. The link between the Temperature Class and the permitted upper ambient temperature is defined in the certificate schedule.