



1. **TYPE EXAMINATION CERTIFICATE**

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**

3. Type Examination Certificate Number: **ITS09ATEX26834X**

4. Equipment or Protective System: **Charge Amplifier Type 2627-a-b-c-d**

5. Manufacturer: **Brüel & Kjær Vibro A/S**

6. Address: Skodsborgvej 307B, 2850 Nærum, Denmark

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8. Intertek Testing and Certification Limited certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive 94/9/EC of 23 March 1994


The examination and test results are recorded in confidential Report: CH-INT 3851 job no 09 043586A1 and B1 dated December 9th 2009.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards **EN 60079-0: 2009, EN60079-11: 2007** except in respect of those requirements referred to at item 16 of the Schedule.

10. 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.

11. This Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate..

12. The marking of the equipment or protective system shall include the following:-

 **II 3G** Ex ic IIC T6 (-40°C ≤ Tamb. ≤ +70°C)

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Registered No 3272281 Registered Office: 25 Savile Row London W1X 1AA


Peter Lauritzen
Deputy Certification Officer
Date:

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**SCHEDULE****TYPE EXAMINATION CERTIFICATE NUMBER: ITS09ATEX26834X**

13. Description of Equipment or Protective System

The type 2667 Charge Amplifier converts the high impedance output of piezoelectric transducers into the low impedance signal required for industrial vibration monitoring applications. The type 2667 has a differential input that offers equal amplification for both balanced and single-ended accelerometers. The output amplifier of the 2667 has a pseudo differential output – although both outputs have the same low output impedance, only one output carries the active signal. The type 2667 is supplied from a nominal –24V power supply, via two screw terminals.

Type 2667 is intended for connection to charge type accelerometers in areas with potential risk of explosions, when monitoring plant machinery in harsh environments, for industrial machine installations and for gas turbine applications requiring long mean time between failures.

Type variants comprised by the certificate:

Type 2667 a-b-c-d

- a) S Is for standard version hazardous location
- b) □ Gain in mV/pC
- c) □□□ Lower limiting frequency
- d) □□□ Upper limiting frequency

Intrinsically safe specifications:

Input terminals 7 – 10:

Input, terminals 8-9 to ⊥ (7,10)

Uo: 0V

Io: 0 mA

Lo: 1 mH

Co: 100 nF (maximum cable capacity between terminal 8, 9 and 7, 10)

Po: 0 mW

Ui: -24V

Ii: 1 mA

Li: 75 μH

Ci: 5 nF

Pi: 5 mW

Output terminals 1 – 6:

Output HI, terminals 2 to ⊥ (1,4)

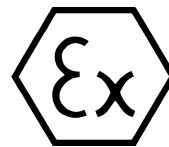
Ui: -28V

Ii: 52 mA

Pi: 300 mW

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Li: 75 μ H
Ci: 5,5 nF

Output LO, terminals 3 to \perp (1,4)

Ui: -28V
Ii: 10 mA
Pi: 30mW
Li: 0,05 mH
Ci: 0,05 nF

Supply terminals 5 to \perp (1,4)

Ui: -28V
Ii: 95 mA
Pi: 700mW
Li: 75 μ H
Ci: 5,5 nF

14. Report NUMBER

Intertek Report ETS 3851 dated November 20th 2009.

15. CONDITIONS OF CERTIFICATION:**a. Special Conditions for safe use**

- ❖ The terminals 1-6 of the apparatus shall be connected to certified barriers or isolators located outside hazardous areas.
- ❖ It is recommended that the Charge Amplifier is mounted in accordance with the "Intrinsic Safe Monitoring System" Brüel & Kjær drawing mo. EW2013 dated 1998-05-26 or EW2735-B dated 2008-05-05
- ❖ The Charge Amplifier shall be mounted in a junction box connected to protective earth
- ❖ The blue chassis and the four screws at the bottom of the amplifier are connected to the IS circuit terminal 1, 4, 7 and 10. The DIN rail spring clamp is isolated from the IS circuit of the amplifier.

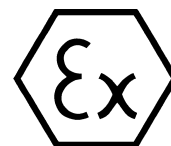
b. Conditions For Use (Routine Tests)

There are no routine tests to be carried out.

16. Essential Health and Safety Requirements (EhsR's)

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The relevant EHSR's that have not been addressed by the standards listed in this certificate have been identified and assessed in Intertek Report ETS 3851 dated November 20th 2009.

17. DRAWINGS

Number	Issue	Date	Description
CHW 5003-03	1	2009-08-31	Charge Amplifier type 2667 - Schematic
CHW 1346 (9 pages)	1	2006-10-31	Top Overlay PCB CHX 1094-2
CHW 1352	1	2006-12-18	Pell off mask for CHX 1094-2I
CHI1130-3 (2 pages)	1	2009-10-28	Part list
CHR 5112	1	2009-10-30	Silketryk
DK 1243	16	1989-03-01	Monteringsprofil
ÆC 3377	12	1989-03-01	Aluminiumprofil
EEX-2667-3	5	2009-02-24	ATEX Manual

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1. **SUPPLEMENTARY TYPE EXAMINATION CERTIFICATE**

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3. **EC-Type Examination Certificate Number:** ITS09ATEX26834X/1

4. **Equipment or Protective System:** Charge Amplifier 2667

5. **Manufacturer:** Brüel & Kjær Vibro GmbH

6. **Address:** Leydheckerstraße 10
64293 Darmstadt
Germany

7. This supplementary certificate extends EC-Type Examination Certificate Number ITS09ATEX26834X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having variations specified in the Schedule attached to this certificate and the documents therein referred to.

Intertek Report Ref 100048115UDI-001 dated September 2015.

This Supplementary Certificate shall be held with the original Certificate(s).

ITS09ATEX26834X dated 06 January 2010



R J Smith
Certification Officer
14 September 2015

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SCHEDULE

SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS09ATEX26834X/1

VARIATION 1

Description of the Variation to the Equipment or Protective System.

To permit the following change(s): -

- Address of the manufacturer
From

Brüel & Kjær Vibro A/S
Skodsborgvej 307B
2850 Nearum
Denmark

To
Brüel & Kjær Vibro GmbH
Leydheckerstraße 10
64293 Darmstadt
Germany
- Update the marking to the new EN 60079-0:2012+ A11: 2013 and EN 60079-11:2012
- Update drawing EW2775 from Rev A to Rev B.

Report No.:

Intertek Report Ref.: 100048115UDI-001 Dated: September 2015

The changes have amended the Equipment marking to be: -



II 3G Ex ic IIC T6 Gc

$-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

Conditions of Certification:

(a). Special Conditions for safe use

- The terminals 1-6 of the apparatus shall be connected to certified barriers or isolators located outside hazardous area
- Ambient temperature: -40°C up to $+70^{\circ}\text{C}$
- It is recommended that the Charge Amplifier is mounted in accordance with the "Intrinsic Safe Monitoring System" Brüel & Kjær drawing no. EW2773A, EW2774A dated 2009-12-01 and EW2775 Rev. B dated 2015-04-09
- The Charge Amplifier shall be mounted in a junction box connected to protective earth
- The blue chassis and the four screws at the bottom of the amplifier are connected to the IS circuit terminal 1, 4, 7 and 10. The DIN rail spring clamp is isolated from the IS circuit of the amplifier.

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(b). Conditions of Manufacture

- There are no additional conditions, see previous certificates.

Essential Health and Safety Requirements (EHSR's)

See original certificate, the listed change to the Equipment or Protective System has not altered compliance.

Drawings and Documents

Title	Drawing No.:	Rev. Level:	Date:
Atex Instruction Manual	C105699.001	08	02.03.2015
Charge Amplifier 2667 Atex Marking	C105698001	DA	4.8.2015
Principle diagram for Intrinsically Safe Monitoring System, one isolation amplifier	EW2775	B	2015-04-09
1. SUPPLEMENTATION FOR CHARGE AMPLIFIER 2667... ITS09ATEX26834X		3	17.04.2015

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