



(1) **EU-TYPE-EXAMINATION CERTIFICATE**
(Translation)

(2) Equipment or Protective Systems Intended for Use in
Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

PTB 07 ATEX 2008

Issue: 2

(4) Product: Acceleration sensor, type ASA-06x

(5) Manufacturer: Brüel & Kjær Vibro GmbH

(6) Address: Leydheckerstr. 10, 64293 Darmstadt, Germany

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 18-28086.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012 + A11:2013 **EN 60079-11:2012**

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

 **II 1 G Ex ia IIC T6 ... T1 Ga or**
II 2 G Ex ia IIC T6 ... T1 Gb or
II 2 D Ex ia IIIC T85 °C ... T145 °C Db

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, August 23, 2018

Dr.-Ing. F. Lienesch
Direktor und Professor



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(13)

SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 07 ATEX 2008, Issue: 2**

(15) Description of Product

The acceleration sensor, type ASA-06x is used for the measurement of mechanical vibrations and for monitoring the bearing state of machines. It is designed as three variants, A (with open-ended cable), B (with screwed connection) and C (with side-mounted plug connector).

The sensor is intended for application in hazardous areas of categories 1G or 2G (gases, vapours, haze) or category 2D (combustible dust-air-mixtures).

For relationship between type code and variant reference is made to the following table:

Type	Variant
ASA-062 ASA-068	Variant A with permanently mounted cable
ASA-063 ASA-069	Variant B with plug connector
ASA-064 ASA-066	Variant C with side-mounted plug connector

Types ASA-062 and ASA-068 with permanently mounted cable (variant A)

Category 1G-equipment

When the acceleration sensor is installed in hazardous areas requiring category-1G equipment the following relationship between temperature class and permissible ambient temperature applies, as tabulated below.

Temperature class	T _{amb, max}
T6	-20 °C ... 50 °C
T5	-20 °C ... 60 °C
T4	-20 °C ... 90 °C
T3, T2, T1	-20°C ... 125 °C

For applications requiring category-1G equipment, the process pressure of the media shall range from 0.8 to 1.1 bar. In case of a deviation from these conditions at the measuring sensor, it shall be considered that the acceleration sensor (even in case of failure) does not heat up by more than 16 K on the encapsulation surface and that the operating company is responsible for the safe operation of the system with respect to the pressures / temperatures of the materials used.

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Category 2G- or 2D-equipment

When the acceleration sensor is installed in hazardous areas requiring category-2G equipment or in hazardous areas of category 2D where combustible dust-air-mixtures need to be assumed, the following relationship between temperature class, the permissible ambient temperature and the maximum surface temperature applies as tabulated below.

Temperature class	T _{amb, max.}	T _{surface, max}
T6	-20 °C ... 65 °C	85 °C
T5	-20 °C ... 80 °C	100 °C
T4	-20 °C ... 115 °C	135 °C
T3, T2, T1	-20 °C ... 125 °C	145 °C

**Types ASA-063 and ASA-069 with plug connector (design B) and
 Type ASA-064 and ASA-066 with side-mounted plug connector (design C)**

Category 1G-equipment

When the acceleration sensor is installed in hazardous areas requiring category-1G equipment the following relationship between temperature class and permissible ambient temperature applies, as tabulated below.

Temperature class	T _{amb, max.}
T6	-55 °C ... 50 °C
T5	-55 °C ... 60 °C
T4	-55 °C ... 90 °C
T3, T2, T1	-55 °C ... 125 °C

For applications requiring category-1G equipment, the process pressure of the media shall range from 0.8 to 1.1 bar. In case of a deviation from these conditions at the measuring sensor, it shall be considered that the acceleration sensor (even in case of failure) does not heat up by more than 16 K on the encapsulation surface and that the operating company is responsible for the safe operation of the system with respect to the pressures / temperatures of the materials used.

Category 2G- or 2D-equipment

When the acceleration sensor is installed in hazardous areas requiring category-2G equipment or in hazardous areas of category 2D where combustible dust-air-mixtures need to be assumed, the following relationship between temperature class, the permissible ambient temperature and the maximum surface temperature applies as tabulated below.

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Temperature class	T _{amb, max.}	T _{surface, max}
T6	-55 °C ... 65 °C	85 °C
T5	-55 °C ... 80 °C	100 °C
T4	-55 °C ... 115 °C	135 °C
T3, T2, T1	-55 °C ... 125 °C	145 °C

Electrical data

Supply circuit type of protection Intrinsic Safety Ex ia IIC
 only for connection to a certified
 intrinsically safe circuit

Maximum values:

U_i = 28 V
 I_i = 95 mA
 P_i = 665 mW

L_i negligibly low

Types ASA-062 and ASA-068 with connecting cable C_i = 15 nF with 10 m connecting cable
 C_i = 22 nF with 50 m connecting cable
 Types ASA-063 and ASA-069 with plug connector C_i = 15 nF without connecting cable
 Types ASA-064 and ASA-066 with side-mounted
 plug connector

Modifications

- Alteration of the marking for the application in hazardous areas where the existence of combustible dust-air-mixtures has to be assumed (specification of the range of the surface temperature T85 °C ... T145 °C, instead of only T145 °C).
- Correction of the tabular value of the surface temperature from 125 °C to 135 °C (cf. tables under Category 2G- or 2D-equipment).

(16) Test Report PTB Ex 18-28086

(17) Specific conditions of use
 none

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(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

According to Article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they were issued already in compliance with Directive 2014/34/EU. By permission of the European Commission supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.

Konformitätsbewertungsstelle Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, August 23, 2018


Dr.-Ing. F. Lienesch
Direktor und Professor

