



[1] **EC-TYPE EXAMINATION CERTIFICATE**
according to Directive 94/9/EC, Annex III
(Translation)

[2] Equipment and Protective Systems intended for use
in Potentially Explosive Atmospheres, Directive 94/9/EC

[3] EC-Type Examination Certificate Number: **IBExU07ATEX1131 X**

[4] Equipment: Ultrasound sensor SONOPIPE Type 11

[5] Manufacturer: SONOTEC Ultraschallsensorik Halle GmbH

[6] Address: Nauendorfer Straße 2
06112 Halle
GERMANY

[7] The equipment mentioned under [4] and any acceptable variation there to are specified in the
schedule to this EC-Type Examination Certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with
article 9 of the Council Directive 94/9/EC of 23rd March 1994, certifies that the under [4] mentioned
equipment has been found to comply with the Essential Health and Safety Requirements relating to
the design and construction of the equipment intended for use in potentially explosive atmospheres
given in Annex II to the Directive.
The examination and test results are recorded in test report IB-07-3-119 of 18th September 2007.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance
with EN 60079-0:2004, EN 60079-7:2007, EN 60079-18:2004 and EN 1127-1:1997.

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to
special conditions for safe use specified under [17] in the schedule to this EC-Type Examination
Certificate.

[11] This EC-Type Examination Certificate 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.

[12] The marking of the equipment mentioned under [4] shall include the following:

Probe with permanent cable connection: II 2G Ex mb IIA T4

Probe with terminal connection: II 2G Ex e mb IIA T4

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Authorised for certifications
- Explosion protection -

By order

(Dr. Lösch)



- Seal -
(ID no. 0637)

Freiberg, 20th September 2007

Certificates without signature and
seal are not valid.
Certificates may only be duplicated
completely and unchanged.
In case of dispute, the German text
shall prevail.

Schedule

[13]

Schedule

[14]

to EC-TYPE EXAMINATION CERTIFICATE IBExU07ATEX1131 X

[15]

Description of the equipment

The ultrasound sensor SONOPIPE 11 serves for example for the detection of pig cleaning equipment in pipelines, analogous level monitoring or limit value control in tanks in the zone 1. It consists of a separately encapsulated electronic board and a resiliently supported probe piece (piezoelectric transducer). The connection is carried out with a terminal or with a permanent cable connection.

Technical data

Power supply	18 - 30 V DC
Nominal current:	60 mA
Max. voltage value r.m.s. a.c. or d.c. voltage	U_m 253 V
Ambient temperature range:	-40 °C to +80 °C
Degree of protection:	IP 67

[16]

Test Report

The proof of the explosion protection is recorded in detail in the Test Report IB-07-3-119. The test documents are part of the Test Report and are listed there.

Summary of test results:

The ultrasound sensor SONOPIPE 11 fulfils the requirements of type of protection Encapsulation "mb" and in addition with terminal connection the type of protection Enhanced Safety for electrical equipment of Equipment Group II, Category 2G and Temperature Class T4.

[17]

Special conditions

- The ambient temperature range is specified with $-40\text{ °C} \leq T_a \leq +80\text{ °C}$.
- The sensor shall be provided with an 80 mA F fuse in the supply circuit and with a 40 mA F fuse in the data lines.
- The equipment may only be operated in the installed condition. It must be protected against mechanical impacts, mainly on the sensor surface.

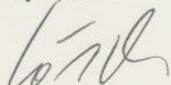
[18]

Essential health and safety requirements

Confirmed by compliance of standards (see [9]).

By order

Freiberg, 20th September 2007


(Dr. Lösch)

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

- [1] **1st Addition to**
EC-TYPE EXAMINATION CERTIFICATE IBExU07ATEX1131 X
according to Directive 94/9/EC, Annex III
- Translation -



- [2] Equipment:
a) Types corresponding to IBExU07ATEX1131 X:
SONOPIPE Typ 11

b) Added types: SONOPIPE Typ 11A
- [3] Manufacturer: SONOTEC Ultraschallsensorik Halle GmbH
- [4] Address: Nauendorfer Straße 2
06112 Halle
GERMANY

- [5] **Addition / Modification**
The additions / alterations of the equipment mentioned under [2]b compared with the certified equipment concern in particular:
a) The production of an additional device type with a connectivity for a remoted ultrasonic probe.
b) The equipment can be used also in explosion group IIB.

All other parts relevant for the explosion protection remain unchanged.

- [6] **Test Report**
The proof of the explosion protection of the equipment stated under [2]b is documented in the test report IB-09-3-195 of 21 September 2009. The test documents are part of the test report.

- [7] **Test Result**
IBExU certifies that the equipment stated under [2]b fulfils the Essential Health and Safety Requirements given in Annex II of the Directive 94/9/EC by compliance with EN 60079-0:2006, EN 60079-7:2007 and EN 60079-18:2004.

The equipment stated under [2] fulfils the requirements of explosion protection in type of protection Encapsulation "mb" in addition with type of protection Enhanced Safety for electrical equipment of Equipment Group II, Category 2G and Temperature Class T4.

The marking of the equipment stated under [2] shall include unchanged the following:

 II 2G Ex e mb IIB T4

This addition is only valid in combination with the EC-Type Examination Certificate IBExU07ATEX1131 X of 20 September 2007. The special conditions apply unchanged far.

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Authorized for certifications
- Explosion protection -

By order

(Dr. Wagner)



- Seal -
(Identification No. 0637)

Freiberg, 21 September 2009

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