



Prüf- und Zertifizierungsstelle

ZELM Ex



(1) EC-TYPE-EXAMINATION CERTIFICATE

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-TYPE-EXAMINATION CERTIFICATE Number:

ZELM 04 ATEX 0230X

(4) Equipment: **Ultrasonic Sensor SONOCONTROL 15**

(5) Manufacturer: **SONOTEC Ultraschallsensorik Halle GmbH**

(6) Address: **Nauendorfer Straße 2, D-06112 Halle (Saale)**

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

(8) The Prüf- und Zertifizierungsstelle ZELM Ex, notified body No. 0820 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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.

The examination and test results are recorded in the confidential report ZELM Ex 0750415335.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50 014: 1997+A1+A2

EN 50 020: 2002

(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 in the schedule to this certificate.

(11) This EC-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 shall include the following:



II 2 G EEx ib IIC T6

Zertifizierungsstelle ZELM Ex

Braunschweig, November 25, 2004


Dipl.-Ing. Harald Zelm



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EC-type-examination Certificates without signature and stamp are not valid. The certificates may only be circulated without alteration. Extracts or alterations are subject to approval by the Prüf- und Zertifizierungsstelle ZELM Ex. This English version is based on the German text. In the case of dispute, the German text shall prevail.



(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE ZELM 04 ATEX 0230X

(15) Description of equipment

The Ultrasonic sensor is intended for use as a level test device at process containers.

It is intended only for fixed installation. The orthogonal mechanical and acoustic connection to the process container occurred by use of corresponding fixing elements.

The ultrasonic sensor is a two-wire sensor which is operated by a power supply or zener barrier with separate EC-Type-Examination certificate. The state "dry" results to a current of 8 mA and the "wet" state to a current of 16 mA.

The electronics is potted completely in a metal- / epoxy-tube combination. The application and conditions for electrical connection are explained in the operating instruction manual.

The maximum permissible ambient temperature and the maximum permissible process container temperature depending on the temperature class are to be taken of the following table.

Maximum permissible ambient temperature	Maximum permissible Process container temperature	Temperature class
50°C	140°C	T3
52°C	135°C	T4
55°C	130°C	T4
60°C	120°C	T4
65°C	110°C	T4
70°C	100°C	T4
72,5°C	95°C	T5
75°C	90°C	T5
80°C	80°C	T5
57°C	80°C	T6
60°C	60°C	T6

The lower limit of the ambient temperature is -40°C



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SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE ZELM 04 ATEX 0230X

Electrical Data

Supply- and
Signal circuit:

type of protection Intrinsic Safety: EEx ib IIC/IIB/IIA
only for connection to approved intrinsically safe circuits

Maximum values:

$$U_i = 33 \text{ V}$$

$$I_i = 100 \text{ mA}$$

$$P_i = 650 \text{ mW}$$

effective internal capacitance

$$C_i = 5,3 \text{ nF}$$

effective internal inductance

$$L_i = 0,5 \text{ mH}$$

Reference:

The Supply- and Signal circuit is safely electrically isolated from the sensor housing.

(16) Report No.

ZELM Ex 0750415335

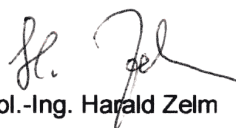
(17) Special conditions for safe use

1. The correlation between the ambient temperature, the process container temperature and the temperature class is to be taken from this EC-Type-Examination certificate.
2. The instruction manual has to be observed.

(18) Essential Health and Safety Requirements

met by standards

Zertifizierungsstelle ZELM Ex


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Braunschweig, November 25, 2004

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1. Supplement

(Supplement according to EC-Directive 94/9 Annex III letter 6)

ZELM ex

to EC-type-examination Certificate

ZELM 04 ATEX 0230 X

Equipment: **Ultrasonic Sensor SONOCONTROL 15**
Manufacturer: **SONOTEC Ultraschallsensorik Halle GmbH**
Address: **Nauendorfer Straße 2, D-06112 Halle (Saale)**

Description of supplement

The 1. Supplement to EC-type-examination Certificate ZELM 04 ATEX 0230 X 1. concerns modification of the mechanical construction of the equipment. Furthermore the agreement of the equipment with current standards has been checked and the marking has been adapted correspondingly.

Electrical and all other data as well as special conditions for safe use remain unchanged and are also applicable for this 1. Supplement.

The Ultrasonic Sensors type SONOCONTROL 15 may be manufactured in future also in accordance with the 1. Supplement.

The marking of the device is in the future:

Kind of protection / marking:



II 2G

Ex ib IIC T6

Report No.

ZELM Ex 1120924730

Essential Health and Safety Requirements

Within the scope of this 1. Supplement to EC-type-examination Certificate ZELM 04 ATEX 0230 X the agreement of the device with current standards has been checked.

The essential health and safety requirements are still fulfilled by compliance with the following Standards:

EN 60079-0:2006

EN 60079-11:2007

Braunschweig, September 22, 2009

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