



(1) EC-TYPE-EXAMINATION CERTIFICATE (Translation)

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



(3) EC-type-examination Certificate Number:

PTB 08 ATEX 2003

(4) Equipment: Explosion protected electronic sensor, type RedCon

(5) Manufacturer: Schischek GmbH

(6) Address: Mühlsteig 45, 90579 Langenzenn, Germany

(7) This equipment and any acceptable variation thereto are 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 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 PTB Ex 08-27011.

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

EN 60079-0:2006

EN 60079-11:2007

EN 60079-15:2005

EN 61241-0:2006

EN 61241-1:2004

EN 61241-11:2006

(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 in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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

II 3 (1) G Ex nC [ia] IIC T6 or
II 3 (1) D Ex tD A22 [iaD] IP66 T 80 °C

Zertifizierungsstelle Explosionschutz
By order:

Braunschweig, March 4, 2008

Dr.-Ing. U. Johannsmeyer
Direktor und Professor



(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE PTB 08 ATEX 2003

(15) Description of equipment

The explosion protected electronic sensor, type RedCon is used for the measurement of pressures, humidity and/or temperatures and for the conversion of the measurand into standard signals.

The associated sensors of type ExPro may be operated in hazardous areas of categories 2G or 2D. They are available in different variants corresponding to the place of installation.

Two optionally provided intrinsically safe circuits may be led into areas of categories 1G or 1D. The sensors to be used shall comply with the requirements of these categories.

The equipment is intended for installation in the hazardous area.

The maximum permissible ambient temperature is 50 °C.

Electrical data

Supply $U = 24 \text{ V AC/DC} \pm 20 \%, 50 \dots 60 \text{ Hz}$
 (terminals 1, 2) $U_m = 30 \text{ V}$

Analog outputs..... $I = 0(4)\dots 20 \text{ mA}$
 (terminals. 3, 4, 5) $U = 0(2)\dots 10 \text{ V}$
 $U_m = 30 \text{ V}$

Digital sensor circuits.....type of protection Intrinsic Safety Ex ia IIC
 (RedCon-D-.. / RedCon-P-..)

Maximum values:

$U_o = 7.9 \text{ V}$
 $I_o = 48 \text{ mA}$
 $P_o = 95 \text{ mW}$

C_i negligibly low
 L_i negligibly low

For relationship between the explosion group and the permissible external inductances and capacitances, reference is made to the following table:

	IIC	IIB	IIA
L_o	2 mH	5 mH	10 mH
C_o	1.3 μ F	5.8 μ F	7.1 μ F

Passive sensor circuitstype of protection Intrinsic Safety Ex ia IIC
(RedCon-A-..)

Maximum values:

$$U_o = 7.9 \text{ V}$$

$$I_o = 6.4 \text{ mA}$$

$$P_o = 12.7 \text{ mW}$$

C_i negligibly low
 L_i negligibly low

For relationship between the explosion group and the permissible external inductances and capacitances, reference is made to the following table:

	IIC	IIB	IIA
L_o	2 mH	5 mH	10 mH
C_o	1.4 μ F	6.3 μ F	7.9 μ F

Analog outputs (optional)type of protection Intrinsic Safety Ex ia IIC

Maximum values:

$$U_o = 15.8 \text{ V}$$

$$I_o = 85 \text{ mA}$$

$$P_o = 336 \text{ mW}$$

C_i negligibly low
 L_i negligibly low

For relationship between the explosion group and the permissible external inductances and capacitances, reference is made to the following table:

	IIC	IIB	IIA
L_o	2 mH	5 mH	10 mH
C_o	0.33 μ F	1.6 μ F	1.8 μ F

IRDA interface (optional).....type of protection Intrinsic Safety Ex ia IIC

Maximum values:

$$U_o = 7.9 \text{ V}$$

$$I_o = 48 \text{ mA}$$

$$P_o = 95 \text{ mW}$$

C_i negligibly low

L_i negligibly low

For relationship between the explosion group and the permissible external inductances and capacitances, reference is made to the following table:

	IIC	IIB	IIA
L_o	2 mH	5 mH	10 mH
C_o	1.3 μF	5.8 μF	7.1 μF

All circuits are electrically isolated from each other up to a maximum value of the rated voltage of 30 V.

(16) Test report PTB Ex 08-27011

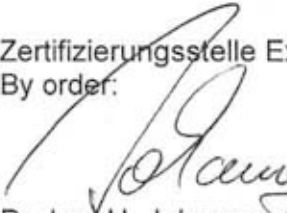
(17) Special conditions for safe use

none

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz
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